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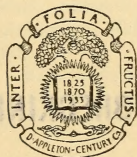
A CRUISING COMPANION  
SHIPS AND THE SEA



*Second Edition revised*

# A CRUISING COMPANION SHIPS AND THE SEA

COMPILED AND EDITED BY  
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# SHIPS AND THE SEA

## CHAPTER I

### Seamanship and Navigation

NAVIGATION is the art of taking ships from one place to another out of sight of land.

It is an exacting science and although modern inventions may have helped in countless ways, the navigator, remember, must be master of these mechanical devices.

The science can be learnt: seamanship cannot. The latter might almost be described as the art of putting navigation into operation; it consists of boat-work and of the practical side of the profession; either a man has a sea-sense or he has not, in the same way that some persons have a road-sense and others do not, although the latter may have as good a theoretical knowledge of the rules and regulations.

Knowledge, skill, judgment, nerve and intuition all play a part in the seaman's make-up; watch a destroyer coming alongside a breakwater or pier at high speed, or watch a midshipman handling his picket-boat and it looks very simple; try it

## Ships and the Sea

yourself and see; if you are in a skiff, can you bring it alongside a pier with just enough way on it to fetch up at the exact spot you had in mind ?

Seamanship is seen at its best in periods of crisis such as during the rescue of a crew in mid-ocean. Seamanship of a high standard was exhibited by the former Commodore of the Cunard fleet, the late Sir James Charles, when he took *Aquitania* out from Southampton and swung her under her own steam, during a tug strike; to handle a vessel of 47,000 tons in this way is beyond all praise.

This is not the place to embark upon a navigational lecture, but a few governing rules may be of interest and even of value.

### Rule of the Road.

As a general rule ships *keep to the right* of a fairway or channel.

### SHIPS MEETING.

When two ships (other than sailing vessels) are meeting nearly end-on in such a manner as to involve risk of collision, each shall alter her course to starboard, so that each may pass on the port side of the other:—

“ Green to green or red to red,  
Perfect safety, go ahead.”

But—

“ If three lights you see ahead ” (that is, mast-head and side-lights),

“ Starboard wheel and show your red.”

### SHIPS CROSSING.

When two steam vessels are crossing so as to involve risk of collision, the vessel which has the other on her own starboard side shall keep out of the way of the other.

## Seamanship and Navigation

“ If to your starboard red appear,  
It is your duty to keep clear.  
To act as judgment says is proper,  
To port or starboard, back or stop her.”  
“ But if upon your port is seen  
A steamer's starboard light of green,  
There's not so much for you to do,  
For green to red keeps clear of you.”

In other words, GREEN keeps clear of RED.

Power-driven ships always keep clear of sailing vessels.

Vessels overtaking shall keep clear of the overtaken ones.

All vessels shall keep out of the way of fishing boats with nets out or of vessels not under way or out of control.

As on the road however, the fact that you may be in the right does not absolve you from responsibility in cases of collision; you must always stand by to take whatever action may be necessary on account of the other fellow not following the rules; again, circumstances may prevent the rigid application of these rules.

A useful rule to remember is that *ship's head, wheel and rudder all move in the same direction*; if you want to go to starboard, put your wheel over to starboard and all is well.

The tiller ropes in a row-boat work in the same manner.

The tiller in a ship not having a wheel, however, works in the opposite way; for example, if you want to go to starboard you bring your tiller to port.

Until 1st January, 1933, all orders were “ Helm (tiller) ” orders, but since that date they have been direct “ Steering ” orders. This old custom was a survival from the days when all ships were steered by tillers, so that up to 1933 if a ship

## **Ships and the Sea**

was required to go to starboard the order would have been "Port," and vice-versa—in other words, the reverse order was given and then disobeyed by the helmsman.

A vessel shall indicate her course if necessary by giving the following signals:—

One short blast: "I am directing my course to starboard."

Two short blasts: "I am directing my course to port."

Three short blasts: "My engines are going full speed astern."

The first official ruling regarding navigation lights was introduced by the Admiralty in 1848; until that time red lights were sometimes shown on the starboard and green on the port.

The usual method of committing to memory which are the correct colours is to think of the port light as being of the colour of port wine or cherry brandy and the starboard light that of *crème de mênthe*.

At night the following are the rules governing lights to be carried by power-driven vessels: when not under way the side-lights are not carried.

### **Navigation Lights.**

**UNDER WAY:** Green light on starboard side and red light on port side (called side-lights, and visible 2 miles), white light at foremast (visible 5 miles).

Additional white light usually carried on mainmast; must be at least 15 feet higher than that on foremast.

**VESSELS TOWING:** Side-lights; two white lights on foremast not less than 6 feet apart, third white below or above, if tow is more than 600 feet in length.

The vessel being towed shows only side-lights.

**CABLE VESSELS:** Side-lights; one white light between two red lights on foremast.

**TRAWLERS:** Side-lights; mast-head light and white below this. (May have coloured lantern combining masthead and sidelights.)

Colours.

- White.  
● Red.  
● Green.

1.

2.

3.

4.

5.

6.

7.

8.

8a.

1. Steam vessel under way ; (port side).

2. Same, bow view.

BOW VIEWS:—3. Vessel towing more than one ship.  
6. Steam fishing vessel. 7. Vessel not under command.  
at work ; safe to pass only on white side.

4. Cable Layer. 5. Pilot Cutter.  
8. Dredger at work. 8a. Dredger

## **Ships and the Sea**

**PILOT VESSELS:** Side-lights; white mast-head light; red light below this (latter only if vessel is on station).

**VESSEL NOT UNDER COMMAND:** Side-lights; two red lights, vertical, visible all round.

Most vessels also carry a stern light.

**A DREDGER AT WORK:** Exhibits three white lights in a triangle if it is safe to pass on either side; three lights in a triangle, two white and one red if it is unsafe to pass on that side next the red.

**SPECIAL LIGHTS CARRIED BY H.M. SHIPS:** In Harbour the following lights are exhibited in addition to the usual stay-lights:—

Flagship of Admiral: Three stern lights and one top light.

Flagship of Vice-Admiral: Two stern lights and one top light.

Flagship of Rear-Admiral or Commodore: One stern light and one top light.

Stern lights are carried on after side of shelter deck or after bridge; top lights are carried on after part of main-top and are not visible before the beam; they are carried at sea by all ranks of Admiral.

The rules of lights and the rule of the road are in general so simple that many seamen wondered why they could not be introduced on land long before the present traffic lights were adopted.

### **Charts.**

Charts are prepared by the Admiralty Hydrographic Department; they are intensely interesting and contain a mass of information.

The lines drawn from side to side across the chart are called parallels of **LATITUDE**; those from top to bottom are called meridians of **LONGITUDE**.

## Seamanship and Navigation

The Equator is the parallel running round the centre of the globe and latitude is spoken of as being so many degrees North or South of this centre line.

Greenwich is taken as the world's Meridian and longitude is spoken of as being so many degrees West or East of that point.

In taking a vessel from one position on a chart to another a COURSE has to be set; a line is drawn joining the two places and the angle that this line makes with the North and South line is called the course.

The position of a ship when in sight of land is checked on the chart by taking BEARINGS; the direction of two or more prominent objects on the land is taken by compass, these angles are drawn on the chart, and where the lines meet is the position of the ship.

The earth being nearly a sphere its surface is curved, but a chart or map has to be drawn upon a flat surface, and the problem of how best to do this was solved by a Dutch mathematician named Gerard Mercator, in 1580. While keeping the *meridians of longitude* parallel on his chart, he gradually increased the distances between the *parallels of latitude* so that the true ratio of the latitude to the longitude was maintained.

This enables the navigator to lay off a straight line on a certain bearing to the north at one point, so that all other parts of that line will have the same bearing relative to that north and this is called the "rhumb line."

All circles which bound the maximum circumference of the earth, or which, in other words, have their centres at the centre of the earth, are called Great Circles and the distance measured along the Great Circle, passing through any two points, is the shortest possible distance between those points—hence the Great Circle course is the shortest route between two ports.

Out of sight of land in clear weather the position is fixed by observing the sun, stars or other heavenly bodies with a SEXTANT; these observations are called SIGHTS.



## Ships and the Sea

If the weather prevents this, the position must be found by calculation from the course and from the speed of the ship, obtained by patent LOGS, since the last fix was made.

In all these calculations the effect of wind, tide and currents has to be reckoned with.

### Tides.

Tides are regular *up and down* movements of the sea, caused by the attraction of the moon and sun; the effect of the moon being much greater than that of the sun.

The tide usually rises for  $6\frac{1}{4}$  hours and then falls for the same period; although the times taken vary considerably.

Some places, such as Southampton, have double-tides, caused, in this instance, by the obstruction of the Isle of Wight breaking up the movement.

High water is usually 50 minutes later every day and varies in height according to the state of the moon.

The biggest high waters occur when sun and moon are directly opposite, or at new and full moon approximately, and are called SPRING TIDES.

The lowest occur at first and last quarter, and are called NEAP TIDES.

When a tide rises higher than usual it also falls lower.

In some places the difference between high and low water is 20, 30 or even 40 feet, whilst at others it is only a few feet; the Mediterranean is known as the tideless sea, although actually the rise and fall is about six feet.

### Tidal Streams.

These are *horizontal* movements of the surface caused by the rise and fall of tides, and in the open sea they usually run or flow in one direction for five or six hours, then become slack and fall or ebb in the opposite direction for a further five or six hours.

## Seamanship and Navigation

### Currents.

These are either regular movements of the sea, such as the Gulf Stream, or are periodical and are caused by prevailing winds and other causes.

### Some Navigational Instruments.

#### COMPASS.

The compass is the instrument which indicates direction, and the principle on which it works is that a magnet (or system of magnets placed parallel to each other and spoken of as compass needles) theoretically points to the North Pole and so gives one constant director.

To this needle is fixed a circular card, termed a "Compass card," marked with points round its extremity, the opposite point on the card to that pointing to the North Pole, being called South; the extremities of the diameter at right angles to the North and South line are marked East and West, East being the right-hand when the helmsman is facing to the northward, and these four points are called CARDINAL points.

The circle is thus divided into four quadrants, and each quadrant is further divided into eight equal parts, called "points," giving a total of 32 points to the whole card, made up of 4 Cardinal points, 4 half-Cardinal, 8 intermediate or 3-letter points, and 16 "by" points.

Each point is further sub-divided into half and quarter points and each has a distinct name, but only the 32 full points are used nowadays, the remainder being read in degrees, in fact in the Royal Navy the compass is read in degrees only; the complete circle having 360 degrees it follows that each point equals  $11\frac{1}{4}$  degrees.

To "Box" the compass is to recite all the 32 points in order and may have derived from the idea of boxing or defeating the intricacies of the points.

The card is mounted in a metal bowl, on a pivot so that it is free to swing in any

# COMPASS CARD

## 4th quarter

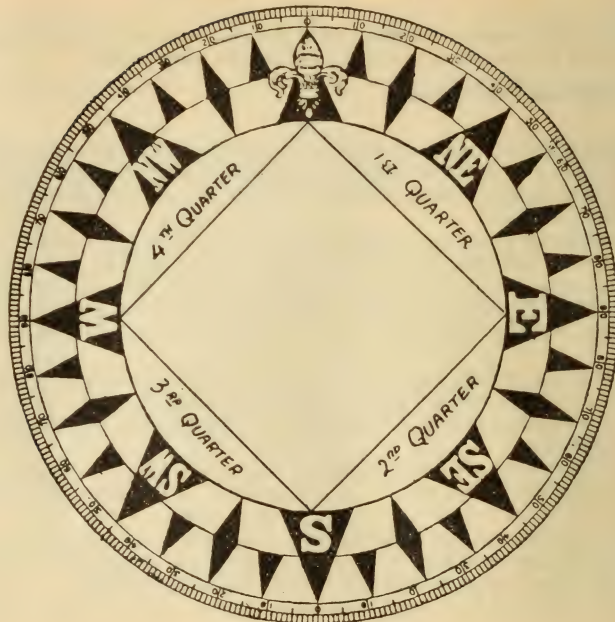
### W

W by N  
W N W  
N W by W  
N W  
N W by N  
N N W  
N by W  
N

## 3rd quarter

### S

S by W  
S S W  
S W by S  
S W  
S W by W  
W S W  
W by S  
W



## 1st quarter

### N

N by E  
N N E  
N E by N  
N E  
N E by E  
E N E  
E by N  
E

## 2nd quarter

### E

E by S  
E S E  
S E by E  
S E  
S E by S  
S S E  
S by E  
S

## Seamanship and Navigation

direction, and the bowl is slung in gimbals in a receptacle called the binnacle (formerly bittackle or habittacle—that is, a little house, in which it was secured).

On the inside surface of the bowl is a black-painted line or pointer, termed the “Lubber’s line,” which is in a direct line with the ship’s head, and in line with the keel.

The binnacle being secured to, and part of the ship, it follows that the Lubber’s line moves with every movement of the ship’s head. The compass point as indicated on the card, which is in line with the point of the Lubber’s line, indicates the ship’s course and is called her “Compass course.”

It is said that the name Lubber’s line originated as a term of contempt in those days when it was sufficient to steer your course to the nearest half-point, as a real seaman could do without it.

The binnacle is generally made of wood with brass fittings, and inside it are placed horizontal and vertical magnets which are the correctors used in adjusting the compass.

Outside the binnacle are two large soft iron balls, one on each side, and there is finally a brass cylindrical case in which a bar of soft iron can be placed: this is termed a “Flinder’s bar.”

### *Variation and Deviation.*

A compass needle, however, only *theoretically* points to the True or Geographical North; actually it points to the Magnetic North, and the difference between the two is termed “Variation.”

Owing to the amount of iron and steel in a ship’s construction and on account of the hammering to which she is subjected in building, she turns herself into a magnet. If lying in the yard along a north and south line she will be a magnet along the length of her keel, and if built east and west, the cross beams form a series of magnets.

## **Ships and the Sea**

For these reasons her compass rarely even points to the Magnetic North and the difference between this Magnetic North and the North as indicated by her compass, is called "Deviation."

To find this deviation, a ship on completion and before sailing, is "Swung" to every point of the compass by experts who register the amount of deviation which must be allowed for.

The compass has been in use from very early days and some form was undoubtedly known to, and used by, the ancients. The North point is nearly always represented by a fleur-de-lys.

The compass in old France was termed the *mariniere*, hence the word-connection with *marin* and *mariner* and in 1248 it is reported that Norman ships had a design in the form of a fleur-de-lys floating in the centre of their *mariniere*.

### *Standard Compass.*

The principal magnetic compass in a ship is called the Standard or Master Compass, and is usually placed on the fore upper bridge; the compasses at different steering positions are called "Steering Compasses."

The longer that a ship lives the less becomes her inherent magnetism owing to the counter-battering of the seas. Sudden shocks, such as collision, alter a ship's magnetism and gunfire often seriously throws compasses out of joint as was particularly noticed after the Falkland Islands battle when as much as 15 degrees of inaccuracy was reported. If the coastline along which a ship is steaming contains much iron the error is noticeable; the heat from the funnels may seriously affect the compasses, and this is one of the reasons why warships have had their forward funnels trunked aft so as to clear the bridges which they used to render almost uninhabitable at high speed.

## Seamanship and Navigation

### *Gyro Compass.*

The principal difference between the Magnetic Compass and the Gyro Compass is, that whereas the former depends upon the *magnetism* of the earth, the latter operates by the *rotation* of the earth and the pull of gravity.

Any body spinning about its own axis can be termed a gyro and a Gyro Compass is simply a wheel, so constructed, mounted and balanced, that when spinning at high speed it shows great steadiness and tends to keep its axis in a fixed direction, and this being made to coincide with the true North, enables it to be used as a compass.

The modern Gyro Compass spins at a speed of about 8,600 revolutions per minute and repeaters are fitted in various parts of the ship, worked from a transmitter at the Master Compass.

The principal advantage of this type of compass over the magnetic type is that it shows the *true North*, it is unaffected by magnetic disturbances, it immediately indicates any alteration of course and in warships it can be placed below the water-line and so is better protected.

Against this must be set the fact that it depends entirely upon a supply of electricity, and it demands constant attention.

### SOUNDING MACHINES.

In former days, all sounding to find out the depth of water under a ship was done by means of the hand-lead which had to be heaved overboard on the end of a line and which required a certain amount of skill, or otherwise the operator might neatly lasso himself into the bargain; the disadvantage of this method was that the ship had to be stopped on each occasion as otherwise the line trailed astern and so gave no indication of the depth of water.

This method is still practised, especially in small craft or in small boat work, but it has long been superseded in large ships by a mechanical method.



## **Ships and the Sea**

The old hand line in use in the Royal Navy was 25 fathoms in length, had a 10 to 14 pound lead weight on the end of it and was marked at various stages by strips of coloured cloth, leather, etc.

Ships are fitted with small platforms, called "chains," one on each side of the ship, the leadsman stands on one of these (the one on the weather side), faces the ship's head, swings the lead once or twice like a pendulum and completes this part of the performance by twirling it round his head several times and then letting it slip into the sea.

In the modern sounding machine, the lead is dropped from the end of a spar swung overboard and above the lead weight at the end of the wire line is a glass tube protected by a metal casing, and in this tube is a chemical which registers the depth of the water according to the pressure forced into the tube by the water.

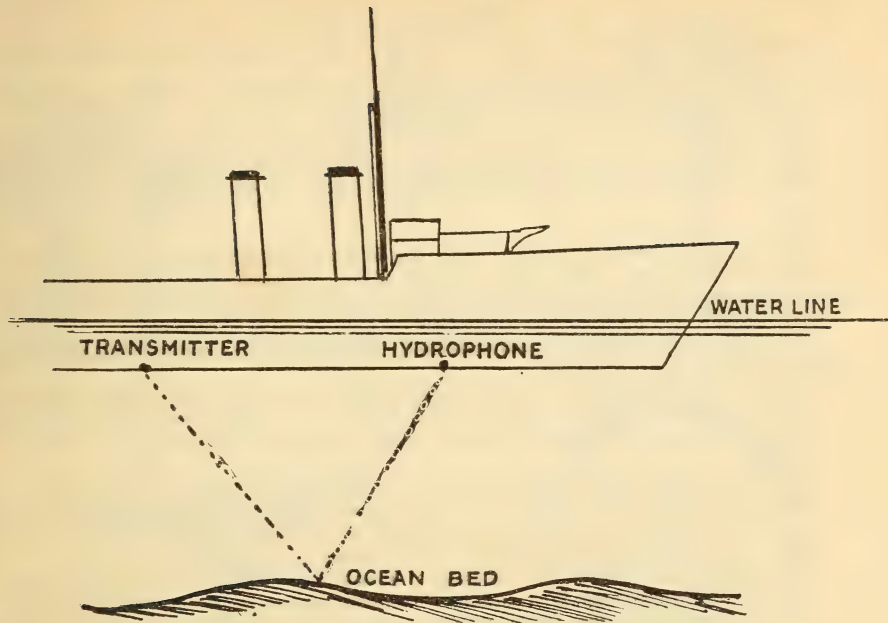
All deep-sea leads have a mixture of tallow or wax and white-lead inserted into a hole in the bottom of the lead for the purpose of collecting specimens of the sea-bed, and so acting as an additional check on a ship's position by checking the specimens so obtained with the constitution of the bottom of the sea as shown on the chart.

### *Echo Sounding Gear.*

In recent years still another development has been introduced in the methods of sounding, and this is the echo sounding device, which enables a sounding to be taken without using any lead or sounding machine.

Sound is known to travel through the sea at a speed of about 5,000 feet per second, so that by measuring the time a sound takes to reach the ship from the sea-bed, the depth of water below can be easily found; as sounds do not emanate as a regular sequence from the bottom of the sea, a sound must be made from the ship to the





ECHO SOUNDING DEVICE

## Ships and the Sea .

sea-bed which will deflect it back to the ship and so the total time taken, halved, will give the desired information.

By the same method of listening for sounds, the Royal Navy was enabled to ascertain the movements of enemy submarines.

The transmitter is in the bottom of the ship to send out the sound, the hydrophone picks up the echo from the sea-bed and the receiver makes the echo audible, a knob and pointer automatically recording the time and therefore the depth.

### Logs.

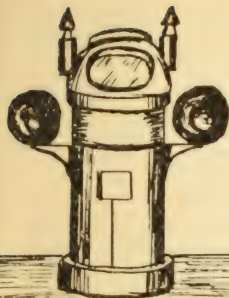
There are two kinds of logs in a ship, one is the authentic record of her career, in which is entered, as it takes place, every incident, such as change of weather, change of speed, date of leaving and arriving at ports and so on, and this is considered the most valuable of all ship's papers; to falsify a log is a criminal offence.

The other kind of log is an instrument something like a speedometer for mechanically recording the speed of a ship.

Those used to-day are of various patterns and known as Patent Logs, having a form of propeller inside a tube: the screw is turned by the inflow of water and the number of turns is registered on a dial which is usually attached to the taffrail of the ship.

The successful working of a Patent Log largely depends upon its being used with sufficient length of line, this length varying according to the speed of the vessel and being about 40 fathoms when travelling at 10 knots, and 120 fathoms at 25 knots. The log astern is connected to an indicator on the navigating bridge.

A *Tachometer* indicates the number of revolutions turned by the ship's screw and thus her speed may be reckoned. It must always be remembered that both these devices indicate the *ship's speed through the water*, but if she is against a tidal stream or strong current she will not actually be covering this distance, in fact,



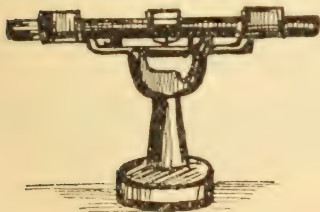
BINNACLE



TELEGRAPH



WIRELESS DIRECTION FINDER



RANGE-FINDER



*Range-finder field of vision, showing top part of mast out of alignment.*

## Ships and the Sea

theoretically a vessel might be travelling backwards although her revolutions indicated a considerable speed ahead.

Another war-time device, since perfected and mentioned elsewhere in this book, is the *Wireless Direction Finder*, which will be found on the bridge or on the top of a special platform.

When the enemy submarines used to come to the surface during the night for the purpose of raising their wireless masts and talking to their consorts far away, stations ashore intercepted the message, laid off cross-bearings and located the position of the sender.

SUBMARINE SIGNALS are described in the chapter on Signals.

On the bridge are also the RANGE-FINDER and HELM-INDICATOR.

The former has an eyepiece divided horizontally into two equal parts by a black line; by turning a knob at the side so as to bring the two parts of a distant object into alignment the range is found and read off a scale at the side. The helm-indicator shows whether the ship is keeping to her compass course or by how much she is deviating from it.

The ENGINE-ROOM TELEGRAPH is an instrument for communicating orders to the engine-room, as its name implies.

Its dial is divided in the manner shown on the illustration on page 17.

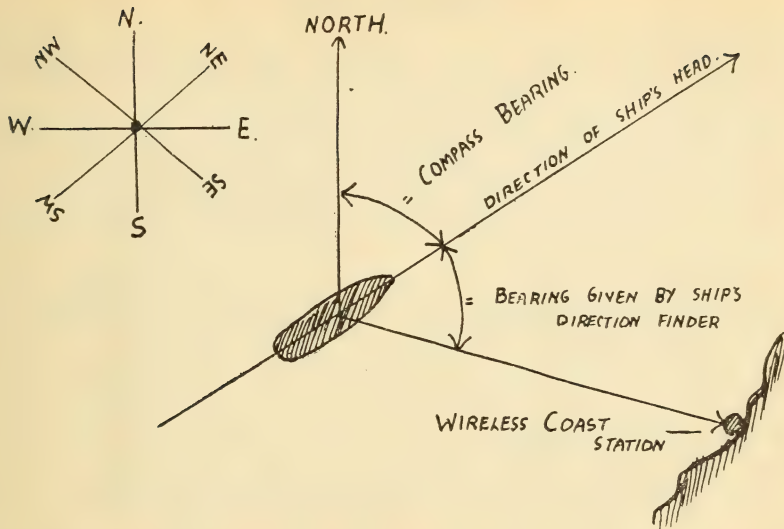
In twin-screw ships there are two levers, ordering the port and starboard engines respectively.

There are several telegraphs on the bridge of a ship of any size, one to engine-room, one to docking-bridge aft and one to the after wheel-house.

All orders are checked back by the engine-room.

The few descriptions given above will give some idea of the principal navigational instruments in use to-day; new gadgets and improvements are constantly being perfected so that there is plenty to keep the seaman busy.

## FINDING SHIPS' POSITION NEAR LAND



1. The direction finder gives the angle of shore station relative to the ship's head.
2. The direction of the ship's head is known from compass.

By adding 1 and 2, the "true" or "compass" bearing of the shore station is obtained.

## Ships and the Sea

### CHRONOMETER.

Ship's time is kept by very accurate clocks called chronometers, which are slung in gimbals and kept in a special box. There are usually at least three chronometers in a large ship or warship, and these are all corrected daily for error.

Equally accurate watches are kept on the bridge and are called Deck or Hack watches.

At a considerable number of British ports there are ball towers which can be seen from a long distance out at sea: at 12.55 the ball is raised to the top of the tower and it falls at 1 p.m.; they are regulated from Greenwich and the navigator is able to correct his chronometers; but their place is being taken by the wireless time signal.

### BAROMETER.

An instrument for recording and measuring *Pressure* of the atmosphere; if the pressure caused by varying temperatures at one place is greater than at another, the air has a tendency to move from the place where it is greater (it is more or less forced or pushed aside) to where it is less, and in this way WIND is caused.

The greater the pushing about, the more unbalanced is the atmosphere and in consequence the barometer is jumpy and variable and indicates bad weather; if the air is steady, so is the glass.

If the bottom of the glass falls out, or, in other words, if the drop is quick and sudden, heavy weather may be expected.

Low temperature and low barometer indicates probability of snow.

For all general purposes it is sufficient to remember that a high or a steadily rising glass indicates fair weather and a low or falling glass the reverse.

In ships, the mercurial barometer is used and it is placed in an even temperature as near the centre of gravity of the ship as possible.

THERMOMETERS are instruments for registering and measuring the *temperature*, and are used at sea largely for testing the temperature of the sea-water.

## Seamanship and Navigation

### WINDS.

The principal cause of winds is a difference of temperature; as mentioned previously, this in turn causes a difference in pressure. The speed of the earth's rotation is about 1,000 miles an hour at the Equator and at the Poles it is nil; the air from the higher latitudes flows as a general trend towards the lower latitudes and it is there deflected from east to west, in a direction opposite to the rotation of the earth; consequently *Trade Winds* blow approximately from N.E. and S.E. They are so called because they blow in one direction for many days at a time and so were sought after and favoured in the days of sail.

The belt of calm between the Trade Winds is known as the *Doldrums*.

The Roaring Forties is a term given to the strong westerly winds in the neighbourhood of 45 degrees south.

Wind systems are either *Cyclonic* or *Anti-cyclonic*. *Cyclonic systems* generally travel quickly, they blow round an area of *low pressure*, in the form of a spiral, inwards, round the area, and are more often than not accompanied by bad weather.

They blow *against* the hands of a watch in the northern hemisphere and *with* the hands in the southern.

*Anti-cyclonic systems* are the reverse of the above; they generally travel slowly and blow round an area of *high pressure*, in the form of a spiral, outwards, round the area and are generally accompanied by fair weather.

They blow *with* the hands of a watch in the northern hemisphere and *against* the hands in the southern.

The following law is useful to remember if you wish to find out the direction of the area of low or high pressure:—

Face the wind, and, in the northern hemisphere, the low pressure area will be on your right, and in the southern hemisphere it will be on your left.



## Ships and the Sea

Wind *Veers* if it moves *with* the hands of a watch and *Backs* if it moves *against* them.

So much variation in recording strengths of winds took place, that Admiral Sir Francis Beaufort, who lived between 1774 and 1857, drew up a scale to fix definite values and this scale was generally adopted and has been in use ever since.

In most weather reports given in the Press, sensationalism rather than accuracy is achieved and the wind rarely reaches the velocity with which it is accredited, at any rate in this country, although individual gusts or squalls may sometimes attain great force.

The notations on the Beaufort Scale record pressure from 0 pounds per square inch up to 16 and indicate conditions from a flat calm to one in which no canvas in a sailing ship could stand.

### Beaufort Scale.

<i>Nautical miles per hour</i>				<i>Force</i>				<i>Description</i>			
0-1	.	.	.	0	.	.	.	Calm			
2-6	.	.	.	1 & 2	.	.	.	Light airs			
7-10	.	.	.	3	.	.	.	Light breeze			
11-16	.	.	.	4	}	.	.	Moderate breeze			
17-21	.	.	.	5							
22-27	.	.	.	6	}	.	.	Strong wind			
28-33	.	.	.	7							
34-40	.	.	.	8	}	.	.	Gale			
41-47	.	.	.	9							
48-55	.	.	.	10	}	.	.	Storm			
56-65	.	.	.	11							
Above 65	.	.	.	12	.	.	.	Hurricane			

## Seamanship and Navigation

The word hurricane reminds one of storms and unpleasant disturbances; most of the tropical storms are circular or revolving and are caused by deep depressions of the cyclonic system; not only do these storms revolve but they travel in a forward direction as well, or to be more accurate, the vortex moves along a path that always curves the same way for any given locality; usually these storms travel at a very great speed and the centre is a veritable inferno with tremendous broken seas, and it is the navigator's one object to keep as clear as he possibly can of this centre of disturbance.

One experience of passing through the centre of such a storm is sufficient for all time and if one is caught in a small craft such as a destroyer the chances of coming through must be left largely to Divine providence.

The tropical storms are called *cyclones* in the Indian Ocean, *hurricanes* in the Pacific and the West Indies and *typhoons* in the China Seas.

The *Tornado* is slightly different and applies particularly to the off-shore squalls of the West African coast.

The *Whirlwind* of the United States is very destructive and it derives its name from the fact that the wind catches the cloud and whirls it round until it forms a funnel-like shape reaching to the ground; this whirl may be anything up to a quarter of a mile in diameter and leaves a belt of destruction in its path.

When the whirlwind happens at sea it usually causes a column of water to rise and meet the funnel, hanging from the cloud; this is similar to a "*Waterspout*," which is a column of spray and moist air reaching up from the sea to the clouds.

The regular flow of winds, as explained earlier on in the chapter, is sometimes broken up by land and other obstructions and the wind therefore changes and becomes local or seasonal; local conditions are the cause of the *Monsoon* of India, the *Levanter* of Gibraltar, an unpleasant sticky mist which blots out everything, the *Mistral* in the Gulf of Lyons and the *Sirocco* of other parts of the Mediterranean.

## Ships and the Sea

### CLOUDS.

Winds and atmospheric conditions naturally affect the clouds and apart from the fact that the formation and appearance of them give a very good guide to the kind of weather to be expected, they form a delightful and ever-changing picture gallery. Clouds and sky are taken for granted by far too many people, but there is nothing conceived, designed or executed by man that can ever equal the grandeur, beauty or immensity of nature's panorama, and seen at sea it takes on an added glory beyond imagination.

To witness a dawn from the foretop of a cruiser with the off-shore breeze adding the faint yet unmistakable scent of damp, heather-covered earth, or to stand at the taffrail of a vessel far out of sight of land and see the sun dip below the horizon from a sky illuminated by its departing splendour, is to experience a sight that almost hurts by its overwhelming and elusive beauty.

There are four distinct main formations of cloud, as classified by the International Meteorological Committee in 1894:—

*Cirrus* : which are feathery and white and are the highest formations of all, sometimes called “mares' tails,” and usually indicate a change or a rising wind.

*Cumulus* : which are like great banks of cotton wool and are the most beautiful of all, especially when tinged with sunset glows; they usually indicate fine weather, except when congregating above a gloomy bank which often presages thunder.

*Nimbus* : the rain clouds, more often than not accompanied by a combination such as cirro-stratus or by a few cumulus.

*Stratus* : the long low-lying bank of cloud, such as a fog bank.

There are combinations of most of these kinds and the best known is the combination of cirrus and cumulus to form the “Mackerel-sky,” one of the prettiest, but often a warning of change.

## Seamanship and Navigation

A sinister-looking yellow streak beneath a lowering black mass more often than not heralds a rising storm.

In fine weather, visibility is good, but if visibility is too good with objects showing clear, well-defined edges or outlines, rain is probably on the way.

Watery skies, which might best be described as blue, that have gradually faded to a transparent white, as their name implies, mean wet. Pale sunsets, such as yellow or green, indicate rain.

Rosy sky in the morning usually means a good day but at night it is not too good, and a bright red sunrise with accompanying clouds may also be unfavourable.

Three days' fog is almost invariably followed by rain.

Waves are often just as much miscalculated as winds and the Douglas Scale given below is the one generally in use in the Service.

### Douglas Sea and Swell Scale.

<i>Notation</i>		<i>Sea</i>	<i>Swell</i>	<i>Height of waves in feet</i>
0	.	Calm	No Swell	0
1	.	Smooth	Low Swell	1
2	.	Slight		1-2
3	.	Moderate	Moderate Swell	2-3
4	.	Rough		3-5
5	.	Very Rough		5-8
6	.	High	Heavy Swell	8-12
7	.	Very High		12-20
8	.	Precipitous		20-40
9	.	Confused	Confused Swell	40 and above

## Ships and the Sea

No authentic figures exist regarding the height of waves and it is more than likely that the highest waves as a rule are about forty feet in the North Atlantic and about sixty feet in the waters south of the African continent, although it is on record that waves up to 100 feet have been met with.

A storm wave in the Atlantic is stated to travel at 22 miles an hour, and the usual length of Atlantic waves is believed to be from about 150 to 300 feet.

The depths of the sea are usually calculated in fathoms, a fathom being 6 feet.

Close to the land, the bottom of the sea gradually shelves down to the 100 fathom line; this is known as the *Continental-shelf*.

From this depth the slope usually increases and is known as the *Continental-slope*.

Below the 2,000 fathom line is the *abyss* and below the 3,000 fathoms, the *deeps*.

There are at present nearly sixty charted deeps in the oceans and the deepest of the lot is the Mindanao off the Philippines, which is 5,350 fathoms, or 32,100 feet or over six miles. The Porto Rico Trench in the Atlantic is very nearly the same depth.

The average depth of the English Channel is about 55 fathoms (330 feet), that of the Atlantic about 2,000 fathoms or 12,000 feet, whilst the Baltic is only about twenty fathoms or 120 feet; the North Sea averages less than 300 feet and ships sent to the bottom during the War often used to have one end on the bottom and the other end sticking up into the air. The mean depth of the ocean floor of the world is 12,000 feet.

Water at one mile deep has a pressure of about one ton to the square inch.

## Seamanship and Navigation

### Fog Scale

<i>Notation</i>	<i>Fog</i>	<i>Visibility</i>
0	Dense . . . . .	Less than 50 yards
1	Thick . . . . .	„ „ 1 cable (200 yards)
2	Fog . . . . .	„ „ 2 cables (400 yards)
3	Moderate Fog . . . . .	„ „ $\frac{1}{2}$ mile
4	Thin Fog or Mist . . . . .	„ „ 1 mile
5	Visibility poor . . . . .	„ „ 2 miles
6	Visibility moderate . . . . .	„ „ 5 „
7	Visibility good . . . . .	„ „ 10 „
8	Visibility very good . . . . .	„ „ 30 „
9	Visibility exceptional . . . . .	More than 30 „

Distance at sea is deceptive and so is size, principally because there is nothing with which to compare an object, and the usual tendency is to underestimate.

As a very rough guide to the distance that can be seen it is worth remembering that it is equal in miles approximately to the square root of the height of your eye in feet above water level, plus one-seventh.

In all navigational lists of lighthouses the distance of visibility is given as from a height of 15 feet above sea level; this being the mean height of high-water at Spring tides.

If you know the height of an object at which you are looking you can estimate the distance you are from it, by adding the height of your eye to the height of the object, finding the square root and adding one-seventh; this is only a very approximate form of measurement.

Don't forget to add the height of the deck upon which you are standing if you are in a ship.

## Ships and the Sea

### Measurements at Sea.

*Cable* : One tenth of a nautical mile; 100 fathoms or 200 yards.

*Degree* : Degree of longitude is equal to 4 minutes of time, and is equal to 60 miles at 1 degree of latitude and 0 miles at 90 degrees. 1 degree of latitude varies between  $68\frac{1}{2}$  miles at the Equator and  $69\frac{1}{2}$  miles at 90 degrees.

*Earth* : Circumference at Equator is just under 25,000 miles.

*Fathom* : Six feet; all soundings are made in fathoms unless otherwise stated; 100 fathoms equal one cable.

*Latitude and Longitude* : See under *Degree*.

*Nautical Mile* : One sixtieth of a degree of latitude varying from 6,046 feet on Equator to 6,092 feet in latitude 60; for all practical purposes it is taken as 6,080 feet or 2,000 yards, 1.150 statute land miles or 1,853 metres. Three nautical miles equal one league.

*League* : Three nautical miles.

*Knot* : A measure of time and speed; a nautical mile an hour and should never be used to express distance; a ship either steams 20 nautical miles an hour, or 20 knots.

A knot is so called from the knots that marked the log line, which, together with the sand glass, was employed in days gone by for finding the speed of a ship, the speed being recorded as the number of knots which ran out during the sand glass interval.

### Knots into Miles per hour, Feet per Second and Miles per Day.

(Roughly 1 knot equals  $1\frac{1}{2}$  land miles per hour)

1 knot equals	1.151 miles per hour,	1.69 feet per second or	24 miles per day.						
10 knots equal	11.515	„ „ „	16.89	„ „ „	240	„ „ „			
15 „ „	17.27	„ „ „	25.33	„ „ „	360	„ „ „			
20 „ „	23.03	„ „ „	33.78	„ „ „	480	„ „ „			
25 „ „	28.787	„ „ „	.	.	600	„ „ „			



## Seamanship and Navigation

30 knots equal	34·53	miles per hour	.	.	.	.	720 miles per day.
35 „ „	40·287	„ „ „	.	.	.	.	840 „ „ „
40 „ „	46·04	„ „ „	.	.	.	.	900 „ „ „

### Time.

In most navigational works time is described as being a “definite portion of duration.”

The earth, for all practical purposes, takes one day to rotate on her axis, and one year to revolve in her orbit.

*Greenwich time* is the mean solar time of Greenwich, usually referred to as G.M.T., adopted by the world as the meridian apparently because we got in with the idea first.

*Local Time*: The time reckoned at each particular place, usually from its own meridian; thus places are fast or slow of Greenwich time.

The following table may be interesting (taken to nearest half hour):—

ADEN	.	.	.	3 hours fast
AUSTRALIA	.	.	$9\frac{1}{2}$ —10	„ „
BRITISH COLUMBIA	.	.	8	„ slow
CALCUTTA	.	.	6	„ fast
CANARIES	.	.	1	„ slow
CHINA	.	.	7—8	„ fast
COLOMBO	.	.	$5\frac{1}{2}$	„ „
GIBRALTAR	.	.	same as	Greenwich
HAWAII	.	.	$10\frac{1}{2}$	„ slow
INDIA	.	.	$5\frac{1}{2}$	„ fast
JAMAICA	.	.	5	„ slow
JAPAN	.	.	9	„ fast
MADEIRA	.	.	1	„ slow



## Ships and the Sea

MALTA . . . . .	1 hour fast
NEWFOUNDLAND . . . . .	3½ „ slow
NEW YORK . . . . .	5 „ slow
NEW ZEALAND . . . . .	11½ „ fast
NORWAY . . . . .	1 „ „
RUSSIA (Baltic) . . . . .	3 „ „
SOUTH AFRICA . . . . .	2 „ „
UNITED STATES . . . . .	5-6 „ slow

To find the time from a given longitude, divide the degrees, minutes and seconds by fifteen and the answer will give the time in hours, minutes and seconds fast or slow of Greenwich.

*Ship time* is the mean solar time at the place in which she happens to be.

In eastern longitudes it is in advance of Greenwich and in western longitudes it is behind, every 15 degrees of longitude making a difference of one hour.

*Zone time*: A method of keeping time which is always a whole number of hours fast or slow of Greenwich; to achieve this end the world is divided into twenty-four zones. Greenwich is in the centre of Zone 0. and each is divided into 15 degrees of longitude.

The eleven zones east of Greenwich are numbered —1 to —11 and those to the west are numbered +1 to +11.

Exactly opposite to Greenwich, on the other side of the world is a zone equally divided into —12 and +12; this is called the International *date line*.

Going *east* a ship advances towards the sun and *shortens* her day, but going *west* she travels with the sun and *lengthens* her day; therefore if a ship goes half round the earth eastwards, by the time that she gets to the Date Line she has to put back her clock twenty-four hours, which is the number of hours by which her day has shortened—in other words she has to repeat a day and thus arrives at the half-way

## Seamanship and Navigation

house on the due date and not a day in advance; similarly going west she has to put her clock on twenty-four hours, or miss a day out.

For purposes of making this convenient the Zone time was introduced, by which method a ship puts on or puts back her clock once every twenty-four hours according to the zone in which she happens to be.

Neglect to do this would involve endless complications and ships would arrive at places before they had started and would start from places a day before they had got there and other such absurdities.

### Division of the Circle.

60 seconds	.	.	.	1 minute
60 minutes	.	.	.	1 degree
90 degrees	.	.	.	1 right-angle or quarter-circle
2 right-angles	.	.	.	1 semi-circle
4 right-angles (360 degrees)	.	.	.	1 circle
4 minutes of time	.	.	.	1 degree of longitude
15 degrees of longitude	.	.	.	1 hour

Time at sea for working purposes and for watch-keeping purposes is divided into watches as under.

The day commences at NOON, OR AT MIDNIGHT.

Midnight to	4 a.m. or	(0000 to 0400)	.	MIDDLE WATCH
4 a.m.	„	8 a.m. „	(0400 „ 0800)	MORNING WATCH
8 a.m.	„	noon „	(0800 „ 1200)	FORENOON WATCH
Noon	„	4 p.m. „	(1200 „ 1600)	AFTERNOON WATCH
4 p.m.	„	6 p.m. „	(1600 „ 1800)	FIRST DOG WATCH
6 p.m.	„	8 p.m. „	(1800 „ 2000)	SECOND DOG WATCH
8 p.m.	„	midnight,,	(2000 „ 0000)	FIRST WATCH

## Ships and the Sea

The purpose of the two dog watches is to make an odd number of watches in the twenty-four hours and thus enable the watchkeepers to have different watches daily.

The origin of the term “ dog ” is not known ; it is sometimes attributed to “ docked ” or shortened, and sometimes to the term “ Dog days ” in the Autumn, because Dog watches are in the evening or autumn of the day. The late Admiral Sir Christopher Cradock who was lost at Coronel, living up to his personal motto of “ Keeping closer to the enemy,” made the ingenious suggestion that it is because they are watches “ CURtailed.”

The ship’s bell is struck at each half-hour, starting with one bell and going up to eight.

In the dog watches, however, although 6 o’clock is 4 bells, 6.30 begins again at 1 bell and this is said to have originated because during the mutinies of Spithead and the Nore in 1797, the signal for the rising at one port was to have been 5 bells in the dog watches; the officers got to hear of this and ordered 1 bell to be struck and so took the wind out of the sails of the rebellious seamen.

Although 6.30 is 1 bell, however, at 8 p.m. eight bells and not four, are struck.

The “ 7 bells’ boat ” is the name given to the Officer’s leave boat in the Royal Navy—that is to say 3.30 in the afternoon.

The New Year is indicated in the Service by the junior midshipman striking 16 bells.

The bells are always paired for striking where possible; for instance:—

- |                   |                            |
|-------------------|----------------------------|
| 1 bell is struck— | DONG                       |
| 2 bells „ „       | DONG, DONG                 |
| 3 bells „ „       | DONG, DONG—DONG            |
| 4 bells „ „       | DONG, DONG—DONG, DONG      |
| 5 bells „ „       | DONG, DONG—DONG, DONG—DONG |

At night every time that the bell is struck the look-out reports to the Officer of the Watch, “ All’s well, sir. Lights burning brightly.”

## Seamanship and Navigation

### Some Signs and Abbreviations used on Charts.

These are just a few of the abbreviations used on charts and are given just as a matter of interest; to give a complete list would require a whole chapter.

#### *Relating to Colour.*

b	.	.	blue	blk	.	.	black	br	.	.	brown
d	.	.	dark	gn	.	.	green	gy	.	.	grey
w	.	.	white	y	.	.	yellow	spk	.	.	speckled

#### *Relating to Substance of Bottom.*

cl	.	.	clay	m	.	.	mud	oys	.	.	oysters
crl	.	.	coral	r	.	.	rock	mrl	.	.	marl
peb	.	.	pebbles	s	.	.	sand	rad	.	.	radiolaria
shg	.	.	shingle	g	.	.	gravel	gl	.	.	globigerina
sh	.	.	shells	oz	.	.	ooze	for	.	.	foraminifera
st	.	.	stones	wd	.	.	weed	pt	.	.	pteropod

#### *Relating to Nature of Bottom.*

brk	.	.	broken	stf	.	.	stiff	sft	.	.	soft
rot	.	.	rotten	grd	.	.	ground	c	.	.	coarse
f	.	.	fine	h	.	.	hard				

#### *General Abbreviations.*

Anchge.	Anchorage	E.D.	Rock or shoal whose	L.S.S.	Life Saving Station
Bk	Bank		existence is doubtful	Np	Neaps
Baty	Battery	F.S.	Flag Staff	Rk	Rock
Ch	Church	Ho	House	Sh	Shoal
Chan	Channel	H.W.	High Water	Stn	Station
		L.B.	Life Boat	Vil	Village

## Ships and the Sea

### *Colouring of Buoys.*

B.	.	Black
Cheq.	.	Chequered
H.S..	.	Horizontal Stripes
R.	.	Red
V.S.	.	Vertical Stripes
W.	.	White

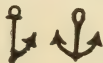
Single dots .	.	.	.	.	.	.	.	.	1 fathom line
Dots in pairs ..	..	..	..	..	..	..	..	..	2 „ lines
Dots in threes ...	...	...	...	...	...	...	...	...	3 „ „
Dots in fours ....	....	....	....	....	....	....	....	....	4 „ „
Dots in fives .....	.....	.....	.....	.....	.....	.....	.....	.....	5 „ „
Dots in sixes .....	.....	.....	.....	.....	.....	.....	.....	.....	6 „ „
Lines and dots —.—.—.—.—.—.—.—.—.—.—.—.—.—.—.	—	—	—	—	—	—	—	—	10 „ „
Lines and pairs of dots —.—.—.—.—.—.—.—.—.—.—.	—	—	—	—	—	—	—	—	20 „ „
Lines and 3 dots —.—.—.—.—.—.—.—.—.—.—.—.—.—.—.	—	—	—	—	—	—	—	—	30 „ „
Continuous dots .....	.....	.....	.....	.....	.....	.....	.....	.....	100 „ „

$\frac{\cdot}{160}$      $\frac{\cdot}{480}$     indicates that there is no bottom at depth stated below the line.

### *Anchorage.*

Anchorage for large vessels is shown by an anchor with two flukes, thus:

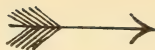
Anchorage for small vessels is shown by an anchor with one fluke or by a kedge anchor, thus:



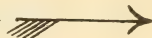
## Seamanship and Navigation

### *Miscellaneous.*

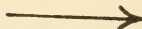
An arrow with feathers on both sides denotes a current



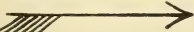
An arrow with feathers on one side denotes flood tidal stream

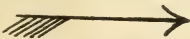


A plain arrow with no feathers denotes ebb tidal stream



The periods of a tide are four in number; they are 1st, 2nd, 3rd and 4th Quarters (abbreviated as Qr.).

The symbol  signifies that the flood tidal stream is running the first quarter.  
at  $2\frac{1}{2}$  knots at 1st Qr.  $2\frac{1}{2}$  kn.

Sometimes instead of using the quarters, the state of the tide is denoted in hours and so  indicates that the velocity of the tide is 3 knots, two after the flood has made.  
hours 2 hr 3 kn.

Finally, the hours of the tide may be denoted by dots on the arrow.



## CHAPTER II

# Trinity House

PERHAPS the oldest Institution in the land and certainly the oldest that has not only retained its original importance but which has also secured an ever increasing one.

In the twelfth century the then Archbishop of Canterbury, Stephen Langton, gathered round himself a body of "Godly disposed men" in the name of the "Master and Founders of Trinity Guild," for the purposes of preventing the deliberate wrecking of vessels which was prevalent at that period and for the purpose of providing lights and sea-marks for the mariners.

It may be regarded as the cradle of the Royal Navy and was granted a Royal Charter of incorporation as "The Guild, Fraternity or Brotherhood of the Most Glorious and Undivided Trinity, and of St. Clement in the Parish of Deptford Strond (Strand)" by King Henry VIII.

This sea-minded monarch entrusted the Corporation with the construction of the Royal Dockyard which he caused to be made at Deptford and with the designing and building of the King's ships; later this was extended to include the arming, equipping, manning and provisioning of every fleet that left England; this naturally included the providing of the Pilots.

Elizabeth granted a coat of arms in 1573 and official authority to erect beacons and other marks.



## Trinity House

In 1604 a very select clan or inner body was formed called the Elder Brethren, the remaining members forming the Younger Brethren and five years later a new charter was obtained which gave entire management to the Elder Brethren.

In 1647 it was dissolved by the Commonwealth Parliament but it was re-established with full powers at the Restoration in 1660.

In 1797 during the Nore mutiny, the Elder Brethren, at considerable risk, journeyed down the river and removed all beacons and buoys that might prove useful to the mutineers.

Unfortunately many of the early records were destroyed by fire in 1714 and in 1798 the headquarters were removed from Deptford to Trinity House, Tower Hill, London.

Since 1853 all dues paid to Trinity House by shipping have been transferred to the Board of Trade and this latter department provides the sum necessary for the Corporation to carry on and develop its work; it must be clearly recognised however that Trinity House is in no way a Government department.

The direct connection with the Royal Navy ceased with the decline of the Stuarts when warships and trading ships began to develop along different lines, but the body still acts in close co-operation with the Admiralty, particularly with the hydrographic department which deals with charts.

The work of Trinity House will be appreciated by reference to the article on Lights, Lighthouses, Lightships, Buoys, Beacons and such like matters, all of which are under the care and maintenance of this august body which is very progressive in spite of its traditions being rooted so deeply in the past. It is represented on the boards of the Port of London Authority and on other port or harbour councils.

There are 300 Younger Brothers, each of whom must hold the rank of a master mariner in the Merchant Navy or Lieutenant-Commander in the Royal Navy and they, like the Elder Brethren, are exempt from serving on any juries.

## Ships and the Sea

Trinity House vessels wear their own distinctive ensign in place of the Red Ensign and by virtue of the ancient privilege of providing pilots, the Elder Brethren act as Royal Pilots whenever his Majesty is afloat in pilotage waters of the United Kingdom on State occasions; thus the Trinity House yacht always precedes the Royal Yacht at Naval Reviews.

For purposes of control and administration the coastline of England and Wales is divided into seven districts. The North-Eastern sector, from Scottish border to Flamborough Head, has no regular depôt or sea-going tender on account of there being comparatively few lights and buoys offshore which require attention.

Each of the remaining six districts has its depôt and tenders; Blackwall, the chief station, and its sub-station at Harwich, have four tenders on account of the enormous number of shoals, sandbanks, etc., in the Thames estuary and surrounding waters.

Two new vessels, *Reculver* and *Strathearn*, have just been built to replace two famous old ships aged thirty-three and thirty-seven years respectively. These Trinity House vessels steam on an average 100,000 miles during the course of the year.

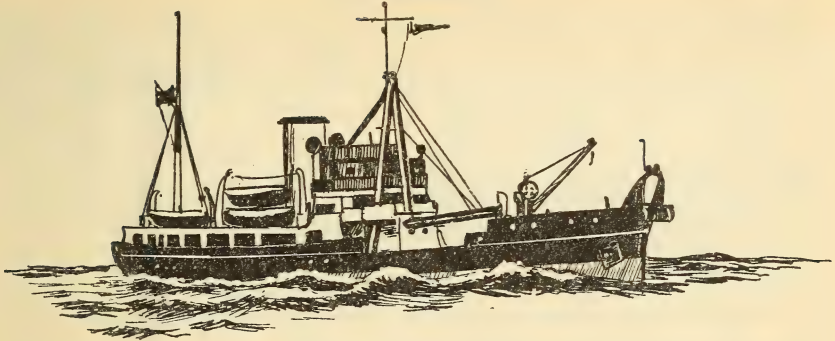
From time to time a few eminent persons are elected Honorary Elder Brethren, an honour not always appreciated at its full significance.

There are actually eight other bodies which control the coastwise lights of these islands, such as the Commissioners of Northern Lights and Irish Lighthouse Board but Trinity House has an overwhelmingly preponderating responsibility and at the present time has charge of about 100 lighthouses, nearly fifty lightships, 150 lights and 450 unlighted buoys on 2,400 miles of coastline.

### Pilotage.

Pilotage is the art of taking ships from one place to another when land or navigational marks are in sight.

## Trinity House



TRINITY HOUSE VESSELS  
*Reculver and Strathearn*

This is done by the help of CHARTS, which are nothing more nor less than maps, showing coast line and sea depths as already described.

As already mentioned the privilege of providing pilots for most British waters has been in the hands of Trinity House since very early days and the Corporation still exercises its right to precede the Royal Yacht on ceremonial occasions.

It is impossible to expect seamen to have knowledge of all local waters so, although the Commander is responsible for the navigation of his vessel out of sight of land, he has by law to take pilots when approaching or leaving land and during the time that the latter is in his ship he should accept his advice.

## **Ships and the Sea**

This is an interesting state of affairs because the master is still in charge of, and responsible for, the safety of his ship, even with a pilot on his bridge but he accepts his judgment as technical adviser, knowing that he has all latest information regarding lighting and buoying; if mishap should overtake the vessel, both master and pilot share the responsibility although the subsequent court of inquiry may vindicate the conduct of either or both.

It is a heavy responsibility for the Commander who has, as his first duty, the security of his ship; over and above this he knows that he must not run his company into expense that might have been avoided; as an example: some considerable time ago a large liner ran aground in broad daylight on a dangerous part of the Goodwin Sands, off the coast of Kent. The pilot advised the immediate use of tugs; the Commander hoped that the rising tide would lift his ship clear and save his owners the heavy salvage charges, and so decided to wait; the tide rose and the ship did not move, in fact she sank deeper and deeper and she is still there to this day.

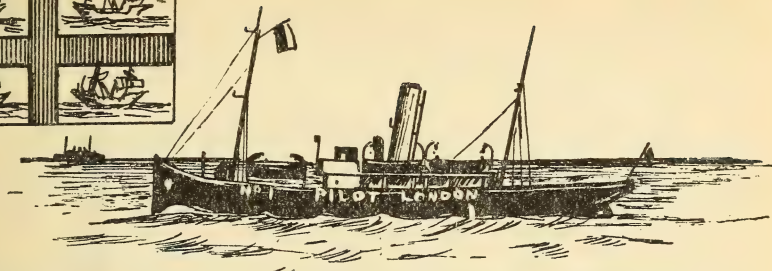
Right up to the war, many sailing craft were in use by pilots and this originated the term "Pilot Cutter" a name still ubiquitous, although in practically every case steam or motor has ousted the old sailer.

The principal pilotage of the United Kingdom, then, is in the hands of Trinity House, whose authority extends to nearly forty ports including London, Southampton, Plymouth and Falmouth.

In addition to the Trinity Pilots, however, there are about sixty other districts where the pilotage is in the hands of the local authorities, such as Bristol Channel, Humber, Mersey, Tees and Tyne.

Pilots serving the greatest port of all, London, are a very select body of men, chosen by the Elder Brethren of Trinity House; they are re-examined yearly and have to pass very strict tests indeed, for sight and hearing. Conditions vary slightly,

## Trinity House



TRINITY HOUSE BADGE WORN ON FLY OF RED ENSIGN. PILOT CUTTER.

but nearly all must hold certificates as masters of foreign-going ships or must have been at sea for at least seven years; none must be over thirty-five years of age at the time of receiving his license from the Corporation.

In the London district all vessels except His Majesty's ships, fishing vessels, private yachts and small, non-passenger carrying craft, must take pilots.

There are five classes of pilots in the London district:—

**EXEMPT RIVER PILOTS.**—These are for craft not subject to compulsory pilotage as above, but who may for some reason or another wish for their advice, and they operate between London Bridge and Gravesend.

**COMPULSORY RIVER PILOTS.**—Operate in same area as above but for all ships compelled to take pilots; their jurisdiction naturally operates in the reverse direction as well.

## **Ships and the Sea**

**NORTH CHANNEL PILOTS.**—From Gravesend to Sunk Lightship and vice versa for ships going into or coming from the North Sea.

**CHANNEL PILOTS.**—From Gravesend to Dungeness or to Dover or Selsey.

**CINQUE PORT PILOTS.**—Reverse of above.

There are over 300 licensed Trinity Pilots for the London district and nearly 250 for the out-ports.

For London and Southampton the Corporation maintains a fleet of about a dozen cutters, small craft on board which the pilots live whilst waiting their turn for an incoming or outgoing ship; in the days gone by there were numerous Pilot Stations round the coast, such as at Deal where the pilots lived, but with the rapid development and with the general speeding up of affairs, the modern cutter takes a full complement of pilots and waits at sea for her ships and one may be seen on any day near Dover or Dungeness, off Harwich or in the vicinity of the Isle of Wight.

The cutters have large white lettering along their sides such as **PILOT-LONDON No. 3** and they fly a horizontally striped flag, top white, bottom red.

All ships which have a pilot on board fly this flag and if a vessel is seen with this under her Ensign it indicates that her master is qualified to pilot his own ship; it is more often seen in small pleasure craft such as the down-river excursion steamers and the coastal paddle-boats.

Some steamship companies always wish for the same pilot at certain ports and these men are known as "Appropriated Pilots"; those who serve any vessels are "Rotary Pilots."

By night, pilot cutters on their stations show, in addition to the ordinary side-lights, a bright white light at foremast and 8 feet below this, a red light visible all round the horizon; they also exhibit flares at intervals of not more than ten minutes.

A ship requiring a pilot shall hoist any of the following signs:—



## Trinity House

1. The Pilot Jack, a small Union flag with a white border.
2. The International Signal P.T.
3. The International flag G. with or without the Code Flag above.
4. The distant signal—two balls above a cone (point upwards).

By night she shall burn a blue light every fifteen minutes or flash a white light at short intervals just above the bulwarks.

These are International signs, but the regulations may vary at each port; for example, a ship bound for Antwerp or Flushing and requiring a pilot shall exhibit one red over two white lights and shall give five blasts on her syren or show five flashes.

Bound for London she shall show one white light over one red but for Amsterdam she will reverse this and show the red over the white.

The work of a pilot is dangerous and sometimes he has to be carried many miles before the weather moderates sufficiently to allow him to be landed.

On your next voyage from London, when you come on deck after dinner and expect to find Dover on your beam, do not immediately go below because in disgust you find your vision obscured by blinding rain or because the ship is stopped and rolling unpleasantly; wait a bit and presently you will see an oilskinned figure come down from the bridge, and make his way to the gangway. Look over the side; don't curse the gusts which may disarrange your toilet and you will be privileged to witness a scene that is being enacted at every large port round our coasts, day and night, summer and winter; bobbing at the bottom of the gangway ladder is a small boat in constant danger of being smashed against the liner's heaving wet side; between plunges, the oil-skin clad figure leaps from one to the other—the boat pushes off, the engine room telegraph rings and you are under way once more.

Business men have been known to chafe at this slight delay; if they have ever



## **Ships and the Sea**

taken the trouble to witness the spectacle described, they have probably done so on a windless summer day; as I have said, it is carried on unceasingly whatever the weather may be; the safety of everyone in a ship depends upon the wisdom, skill and judgment of the pilot; give him a thought sometimes.

SKY PILOT is the seaman's term for a padre, in whose hands lies the spiritual direction of their lives.

### **Buoys and Beacons.**

Buoys are used to mark channels, sandbanks, shoals and all danger spots and their position is marked on all charts.

Most of the buoys round the British coasts are in the charge of Trinity House and at Deptford on the Thames is a wharf and yard where they are periodically brought for painting and overhaul.

STARBOARD-HAND BUOYS mark that side of the channel which is on the right-hand when entering a harbour from seaward or when going with the main stream or flood; they are always conical in shape and always painted all one colour.

PORT-HAND BUOYS mark the left-hand side of channels under the same conditions as above; they are always can-shaped (that is, flat topped) and are either painted in a different colour from the starboard-hand, or more often than not are parti-coloured with chequers or stripes.

MIDDLE GROUND BUOYS are placed to mark a sandbank or obstruction in the middle of a fairway; they are always spherical and are striped horizontally. Buoys at the *outer end* of middle grounds are always surmounted by staff and diamond and at the *inner end* by a staff and triangle.

Buoys of the same class are distinguished from each other by different painting and different topmarks; for example, number one starboard-hand buoy might be painted red, number two black and so on, or they may be numbered.

## Trinity House

If topmarks are used, starboard-hand buoys have a staff and globe and port-hand buoys a staff and cage.

In addition to these general purpose buoys, there are many special buoys such as SPAR BUOYS, PILLAR BUOYS and so on and these are all shown on the accompanying drawing; most of these are used to mark local obstructions and dangers.

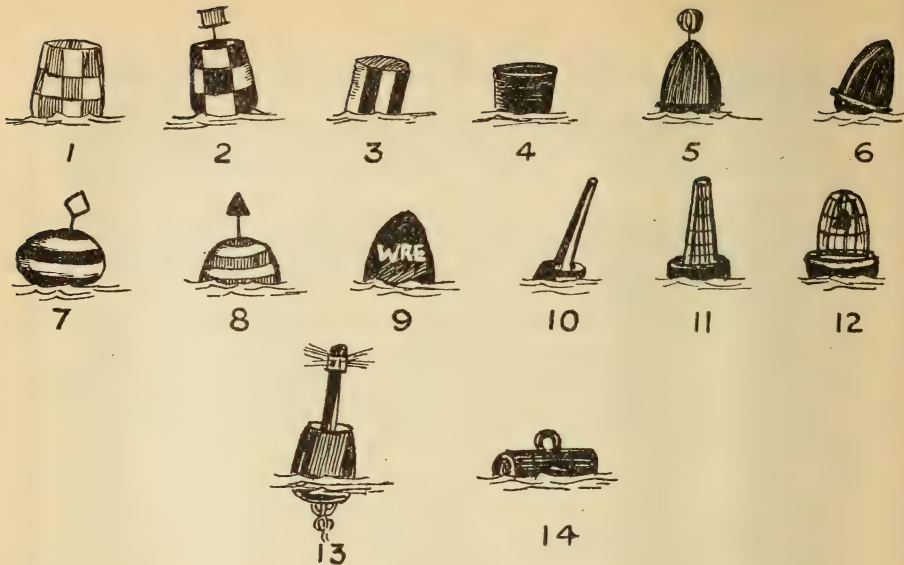
WRECK BUOYS are always green, usually with the word "WRECK" painted in white; when a boat is used to mark a wreck two green balls are hoisted on a yard if to be passed on mariner's port side and three if to be passed on mariner's starboard side and two on either yard-arm if to be passed on either side, at night their place is taken by three green lights.

Spar buoys mark small rivers or streams, sometimes branches of trees being used for this purpose; Pillar buoys have a tall structure on a broad base.

Any buoy may have a light on top for purposes of identification but this must never be a fixed light; it is usually lit by gas and, in old-fashioned ones, is alight day and night. Modern buoys are often automatic and are fitted with an apparatus which automatically lights it at sunset or if darkness comes on, and puts it out at daybreak.

Fog BUOYS have a fog-horn, whistle or bell attached, which is worked by the rise and fall of the buoy in the waves; this naturally ceases to function if there is a calm, as so often happens during fog, although the bow waves of ships often set them off. Modern whistling buoys however have long tubes projecting from the bottom to a depth unaffected by rise and fall and the sea acts as a piston.

MOORING BUOYS are familiar sights in an anchorage or river and it is a magnificent sight to see a squadron of warships coming to its positions, each ship coming practically right up to her buoy; this is a manoeuvre often not appreciated by folks ashore



#### SOME TYPES OF BUOYS

- |  |                                       |
|--|---------------------------------------|
| 1, 2, 3 and 4. <i>Port Hand Buoys.</i> | 5 and 6. <i>Starboard Hand Buoys.</i> |
| 7. <i>Outer end of Middle Ground.</i>  | 8. <i>Inner end of Middle Ground.</i> |
| 9. <i>Wreck Buoy.</i>                  | 10. <i>Spar Buoy.</i>                 |
| 11. <i>Bell Buoy.</i>                  | 12. <i>Gas Buoy.</i>                  |
|  | 14. <i>Mooring Buoy.</i>              |

because it looks so simple but try to realise that the judgment required is considerable; a ship weighing anything up to 40,000 tons weight has to be slowed, her engines stopped and enough momentum allowed, tides and currents have to be reckoned with and she must not overshoot a tiny buoy.

Buoys of all kinds do look tiny as seen from the navigating bridge of a ship and in fact, comparatively, they are mere specks, but if one happens to be in a small boat and one comes too close, they look unpleasantly monstrous; they seem to have an unpleasant leer as they rise and fall and they blink, shriek or bellow at you according to their moods, but there is a very definite fascination about them nevertheless.

Buoys are held in position by anchors, weights and cables, and sometimes they break station and become a menace to shipping if not quickly taken in charge.

They vary in weight from anything between five hundredweight to ten tons and although the largest are usually overhauled and re-painted while still on their stations, all the others are brought in to Blackwall or another Trinity House depôt once every year.

The large gas buoys carry sufficient fuel to last for twelve months, although in actual practice they are replenished at much more frequent intervals, and it is worth noting that a light flashing once every second, will do so 31,500,000 times without receiving attention.

The various marking of buoys mentioned here applies only to those round our own coasts and the seaman's knowledge has to extend farther afield; it is impossible to give any but a few of the foreign systems but the following may prove of interest.

AMERICA.—Starboard-hand buoys are red-painted and have even numbers.

Port-hand buoys are black with odd numbers.

Mid-channel buoys are painted with white and black perpendicular stripes.

BELGIUM.—Starboard-hand buoys are white and port-hand are black.

## **Ships and the Sea**

CANADA.—Same as United States of America.

DENMARK.—In entering a harbour from North or East, starboard-hand buoys are surmounted by red or black poles and port-hand buoys with white poles.

In entering from South or West, the reverse method holds good.

Curious brooms are attached to buoys in the waters of this country, the broom being turned downwards on the east side of a channel and upwards on the west side.

FRANCE.—Starboard-hand buoys are red with a white band near top and port-hand are black, whilst those which may be passed on either side are red with black horizontal bands.

GERMANY.—Germany has a very complicated system and all buoys surmounted by top-marks, and all bell-buoys, gas buoys and automatic signal buoys are termed beacons.

Starboard-hand buoys are spar buoys painted red.

Port-hand buoys are conical and are painted black.

Beacons may also take the place of these buoys.

HOLLAND.—Same system as Belgium.

### **Beacons.**

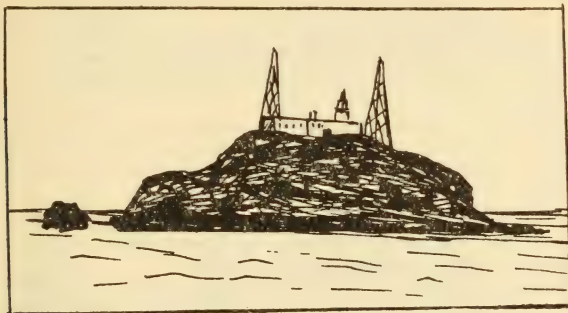
Beacons are posts erected on shore with different tops like the marks on buoys and they are used as leading marks principally; that is to say, that two beacons in line or a beacon in line with another object such as a church steeple, lead one up the centre of a channel.

Smaller beacons, called PERCHES, are used in shallow estuaries and are principally for the benefit of local fishermen and not for deep-sea craft.

Beacons must never have a light on them and are therefore the opposite of the land beacon which has a flare or fire such as a brazier set on a pole.

**Lightships and Lighthouses.**

One of the Seven Wonders of the World was the Pharos or lighthouse at Alexandria, said to have been 400 feet high and built 331 years before the Christian era: another was the Colossus at Rhodes.



DIRECTION FINDING BEACONS

These were not the first recorded lights but they achieved great fame; there are remains of an old lighthouse at Gibraltar and at Dover those of one that was built during the Roman occupation.

No doubt these early lighthouses burnt wood and were more in the form of braziers, or beacons; later on, in 1812, coal replaced wood, or wicks soaked in oil or fat (which

## Ships and the Sea

was first used in 1730); later still, gas was adopted and to-day, oil or electricity holds sway.

Lighthouse building on engineering principles did not begin much until the eighteenth century and many disasters took place before the secrets of successful construction were obtained.

Each tower has its own local problems; for instance, it may be built on a rock many miles out to sea and facing an ocean, it may be on a rock-bound coast or on a shoal, it may be at the foot of a steep cliff or it may be perched on the top of a cliff; finally it may be a light tower which does not present many difficulties, such as on the end of a harbour pier or breakwater.

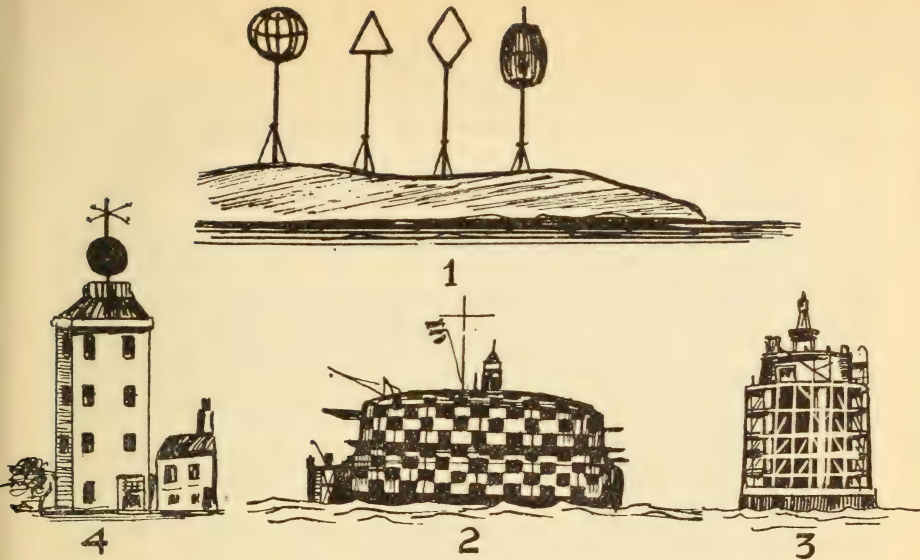
The *first towers* to hold their own against the elements were British, the Eddystone being the earliest, and was built by Smeaton after an earlier one had been burnt and a still earlier wooden structure had been carried away one stormy night with its inventor inside it.

The *first really successful modern lights* in the towers were French and in the middle of last century the United States sent a commission on a tour of England and France to report on the best methods to adopt.

The modern tapering tower-lighthouse is built on a solid foundation, sometimes sunk very deep into the rock upon which it stands; this foundation in the case of lighthouses such as Beachy Head is constructed inside a watertight caisson or steel tube which is first sunk into place. Rothersand Light at the mouth of the Weser has a foundation sunk 80 feet into the sand.

For purposes of recognition, lighthouses take various shapes; some are slender, tapering towers; others are square and others again are castellated or plain circular towers. For the same purpose they are given varying colours; some are plain grey or white, some have black or red bands and others have coloured galleries or lanterns.





#### LANDMARKS AND SEAMARKS

1. *Beacons or Perches. Globe, Triangle, Diamond and Barrel.*
2. *Spit Fort, Spithead, one of the famous chequer seamarks.*
3. *Nab Tower and Light, in Channel off E. end of Isle of Wight.*
4. *Ball Tower Time Signal.*

## **Ships and the Sea**

Light is thrown out by three principal systems:—

By direct reflection through mirrors or metal reflectors, known as CATOPTRIC.

By refracted light—the direct rays being sent through spherical lenses and surrounded by various parabolic prisms, and known as DIOPTRIC.

Or by combination of both these systems, called CATADIOPTRIC.

The various lights exhibited at present are as follows:—

**FIXED LIGHTS.**—Which need no explanation; they may be varied by being coloured or grouped horizontally or vertically.

**FLASHING.**—Showing a single flash which may be instantaneous or may last ten seconds but period of light must always be less than period of darkness.

**GROUP FLASHING.**—Groups of flashes separated by periods of eclipse; these flashes may vary in colour; if only consisting of two or three flashes they are referred to on charts etc. as double-flash or triple-flash.

**FIXED AND FLASHING.**—Permanent light, varied by single flash which may be preceded or followed by short eclipse.

**FIXED AND GROUP FLASHING.**—Same as above but with groups of flashes.

**REVOLVING.**—Self-explanatory and in clear weather the whole course may be observed as a continuous light.

**OCCULTING.**—Continuous light with one sudden and total eclipse; the period of darkness must always be greater than period of light.

**GROUP OCCULTING.**—Continuous light with groups of sudden and total eclipse; if only two or three occultations take place they are referred to as double or triple occulting.

**ALTERNATING.**—Lights of different colours alternating without eclipse.

There are many variations such as a light which shows a flashing sector and a fixed sector; the well known Needles light in the Isle of Wight throws white, green and red arcs according to the direction from which it is seen.

## Trinity House

The most powerful light round the British coast is the Skerries (on the Anglesey coast), which has a light of 4,000,000 candle power; the Lizard light has one of 3,000,000 candle power; Pendeen on the Cornish coast, one of 2,000,000 and the South Foreland Light at St. Margaret's Bay, near Dover, has one of 1,000,000 candle power which throws a light that is visible 26 miles distant.

Off Selsey is a circular tower called the Nab Tower which took the place of a lightship of that name and which was one of the so-called wartime "mystery" towers, designed to be sunk in the Channel to form part of the anti-submarine defence and also probably to mount guns with which to bombard the Belgian coast.

The Statue of Liberty at New York is one of the world's best known sea-marks and was presented to the United States by the French Republic in 1884.

The Bell or Inchcape Rock Lighthouse is one of the largest round British Coasts: it measures over 40 feet wide at the base and stands 150 feet high.

Cape Gris-Nez, on the French coast opposite Folkestone, is one of the brightest and best known lights in this neighbourhood.

Whilst it is impossible not to duplicate lights, it is naturally the main idea to have as large a variety as possible within a given area so as to enable one to have a reasonable idea of one's whereabouts; on a bright clear night a narrow waterway, such as the English Channel near Dover, looks like Piccadilly Circus and lights seem to wink and flash from all points of the compass at the same time.

Some lighthouses in estuaries are built on piles and look like giant cameras perched on tripods.

Rock lighthouses are normally relieved every month but the men remain on station for two month stretches, followed by one month ashore, although during this month they are not on leave but are stationed at one of the shore depôts.

On shifting sands or when the danger from which it is intended to warn vessels is far out at sea, lighthouses are replaced by LIGHTSHIPS.

## **Ships and the Sea**

The earliest lightships were built on the design of the Dutch galliots and their lines are not by any means dissimilar to-day, with their bluff curving bows which give the impression of being able to ride out the dirtiest weather.

Their massive sides are bound with iron.

One of the oldest is the famous NORE, off Sheerness in the Thames Estuary, which has been in service since 1839 and which took the place of a vessel placed there about a century before that.

There are various types of modern lightvessels; some have thick tower-like masts, some have thin masts topped by cages or globes for recognition purposes, some are self-propelling and a few are automatic and have no crews.

The lantern is usually lowered to the deck in the day-time.

The system of lights is the same as for lighthouses but the visibility of their lights is much less.

Although the life of both lighthouse and lightship crews has been made much more bearable during the last few years by such comforts as wireless and gramophone it remains sufficiently trying to make most of us shrink from the idea. Imagine being cooped up in a stone tower against which the full fury of an Atlantic storm may be hurled for days or weeks at a time; imagine the loneliness, which, to say the least, must be trying to the most hardened nerves; picture yourself during a winter gale or during a severe electric storm in a light such as Beachy, cowering beneath high cliffs which must present an awe-inspiring spectacle.

The Wolf Rock takes its name from the hollow barking sound of the reef when pounded by heavy seas.

Can you realise the motion of a lightship, stuck out in the sea or ocean lanes, riding out the heaviest weather when ships are running for shelter; the bobbing up and down is not soothing even in a flat calm but when the wind freshens, it is distinctly unpleasant; add to this the knowledge that as you are right in the steamship

## Trinity House

routes you stand an extremely good chance of being run down, particularly in a fog, and life would not seem too rosy; such a disaster occurred quite recently when the American *Nantucket* light was rammed and sunk by the *Olympic*.

All British lightships are painted bright red and have their name in large white-lettering along the side; Irish lightships are coloured black. A lightvessel on station exhibits a white light at night from the forestay to show in which direction she is riding: if out of station, she shows a red light at either end and red and white flares every 15 minutes.

For these reasons the crew are all picked men, chosen for their steadiness and nerve.

The comforting sweep of a lighthouse beam may be supplanted by wireless directional beacons, but there will be a gap when it is, and I hope the day is far distant when the Mouse, Tongue, Girdler, and Nore lights shall be no more.

The old "sea cows," particularly such seamarks as the Nore, are regarded affectionately by countless thousands; many have felt that they have embarked on a new career opening up endless possibilities when they have left her "hull-down" for the first time, and many have been comforted and their hearts have rejoiced and quickened when they crept past her inward on a misty morning, or dropped anchor within sound of her fog-horn waiting for a morning tide.

## SOME IMPORTANT LIGHTHOUSES AND LIGHTVESSELS ROUND BRITISH ISLES

### SCILLY ISLES

Visibility is reckoned as seen from a height of not less than 15 feet, the average height of normal high water. C.P.—Candle Power.

1. BISHOP ROCK. Granite tower on S.W. part of island. 2 flashes every 15 seconds. Visible 15 miles. 622,000 C.P.

## Ships and the Sea

2. ST. MARY'S. Tower 200 yards from S. end of Pendinnis Head. 1 flash every 20 seconds. Visible 16 miles. 100,000 C.P.
3. ROUND ISLAND. White tower on N. side of Scillys. 1 red flash every 30 seconds. Visible 20 miles. 415,000 C.P.

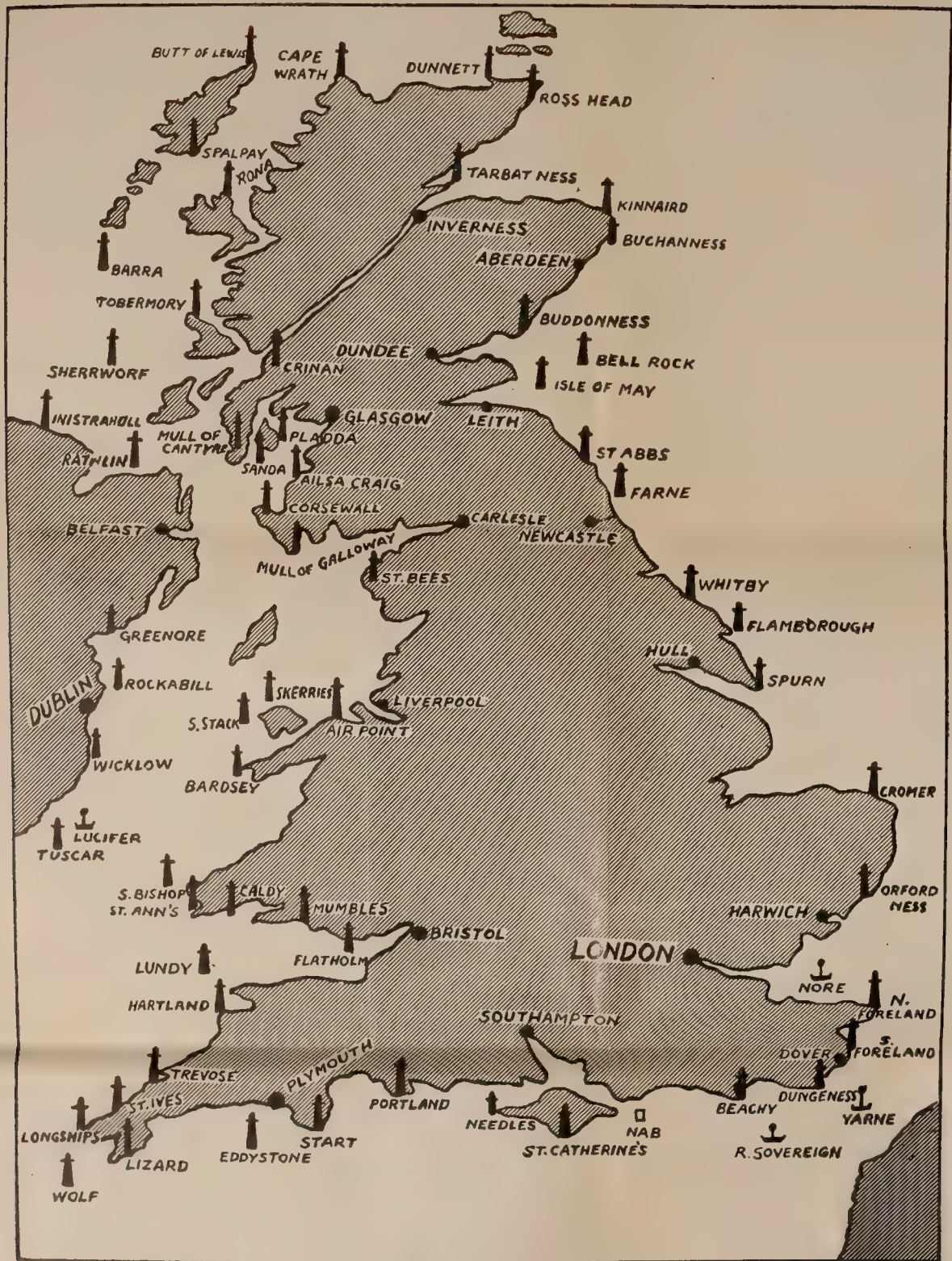
## ENGLISH CHANNEL

4. SEVEN STONES LIGHTVESSEL. 3 flashes every minute. Visible 11 miles. 12,000 C.P.
5. LONGSHIPS (Land's End). Granite tower on rock. Occulting, with red sectors, every minute. Visible 16 miles. 35,000 C.P.
6. WOLF ROCK. Granite tower, with black lantern, on rock. Group flashing, alternating white and red, every 15 seconds. Visible 16 miles. 70,000 C.P.
7. LIZARD. White octagonal tower. 1 flash every 3 seconds. Visible 21 miles. 3,000,000 C.P.
8. FALMOUTH (St. Anthony's). White octagonal tower. Occulting, with red sector, every 20 seconds. Visible 14 miles. 20,000 C.P.
9. FOWEY. White octagonal tower on St. Catherine's point. Occulting white and red. Visible 15 miles.
10. EDDYSTONE. Granite tower, lantern and gallery red. 2 flashes every 17 seconds. Visible 17 miles. Low fixed light visible 15 miles. 292,000 C.P.
11. PLYMOUTH BREAKWATER. Granite tower on west end. Occulting every 30 seconds. Visible 13 miles. Low fixed light visible 11 miles.
12. START POINT. White tower. 1 flash every 20 seconds. Visible 20 miles. also Low fixed light visible 20 miles. 274,000 C.P.











### Lighthouses and Lightvessels

13. DARTMOUTH. Tower on E. side of harbour. Fixed, with white, red and green arcs. Visible 11 miles.
14. BERRY HEAD (Tor Bay). White house. 2 flashes every 15 seconds. Visible 20 miles. 45,000 C.P.
15. PORTLAND BILL. White tower with red band. 4 flashes every 20 seconds. Visible 18 miles. Also fixed red light visible 13 miles. 256,000 C.P.
16. PORTLAND BREAKWATER. S.E. end of detached breakwater. 1 flash every 10 seconds. Visible 14 miles.
17. SHAMBLES LIGHTVESSEL. Ball at masthead. 2 flashes every 30 seconds. Visible 11 miles. 8,000 C.P.

### CHANNEL ISLANDS

18. CASQUETS. White tower. 3 flashes every 30 seconds. Visible 17 miles. 184,000 C.P.
19. ALDERNEY. White tower with black band. 4 flashes every 15 seconds. Visible 17 miles. 400,000 C.P.
20. SARK. White octagonal tower. 1 flash every 15 seconds. Visible 21 miles. 92,000 C.P.
21. LES HANOIS. Granite tower with black lantern. 1 flash every 45 seconds. Visible 16 miles. 74,000 C.P.
22. LA CORBIÈRE. Granite tower. Fixed light. Visible 17 miles. 29,000 C.P.

## Ships and the Sea

### ENGLISH CHANNEL—*contd.*

23. ANVIL POINT. White tower. 1 flash every 10 seconds. Visible 18 miles.  
74,000 C.P.
24. NEEDLES. Granite tower with black band and lantern. On rock at W. extremity of Isle of Wight. Double occulting every 20 seconds with white, green and red arcs. Visible 14 miles. 35,000 C.P.
25. HURST. 2 circular towers on beach 200 yards apart. 1 high occulting every 15 seconds. Visible 14 miles. 1 low occulting, with white and red arcs, every 4 seconds. Visible 12 miles.
26. CALSHOT LIGHTVESSEL. E. side of channel, Southampton Water. Ball at masthead. 1 flash every 5 seconds. Visible 10 miles.
27. WARNER LIGHTVESSEL. Red ball at masthead. Revolving; 1 flash every 10 seconds. Visible 10 miles.
28. NAB TOWER. Circular tower. 1 flash every 10 seconds. Visible 16 miles.  
12,000 C.P.
29. ST. CATHERINE. Octagonal white castellated tower. On cliff at S.E. extremity of Isle of Wight. 1 flash every 5 seconds. Visible 18 miles. 1 fixed red, visible 17 miles.
30. OWERS LIGHTVESSEL. Revolving. Alternate white and red every minute. Visible 11 miles. 8,000 C.P.
31. BEACHY HEAD. Granite tower with black band, gallery and lantern. At foot of cliffs near Eastbourne. 2 flashes every 20 seconds. Visible 16 miles.  
274,000 C.P.

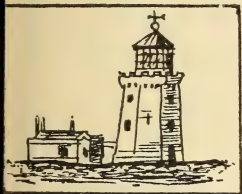




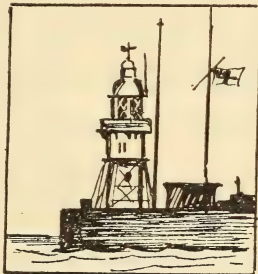
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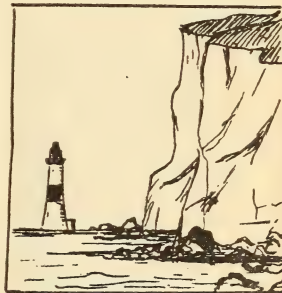
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# TYPES OF LIGHTHOUSES ROUND THE BRITISH COAST

1. *Pile Lighthouse, Thames Estuary.*
2. *North Foreland.*
3. *South Foreland.*
4. *End of Admiralty Pier, Dover.*
5. *Beachy Head.*

## Ships and the Sea

32. ROYAL SOVEREIGN LIGHTVESSEL. Small globe over large, at masthead. Off Eastbourne. 3 flashes every 45 seconds. Visible 11 miles. 750,000 C.P.
- 33/34. DUNGENESS. On beach. Blue tower with broad white band. White flash every 10 seconds. Visible 17 miles. 1 low light fixed with red and green arcs. Visible 13 miles. 164,000 C.P.  
White tower on beach 500 yards from above. 1 flash every 5 seconds. Visible 11 miles. 11,000 C.P.
35. VARNE LIGHTVESSEL. Ball at masthead. Revolving. 1 red flash every 20 seconds. Visible 11 miles. 5,000 C.P.
36. FOLKESTONE. Tower on extremity of pier. 2 flashes every 10 seconds. Visible 11 miles.
- 37/39. DOVER. White tower on end of Admiralty Pier. 1 flash every  $7\frac{1}{2}$  seconds. Visible 14 miles. 100,000 C.P.  
Tower on W. end of detached mole. Red occulting every 30 seconds. Visible 14 miles.  
Granite tower on end of Prince of Wales's Pier. Green flash every 5 seconds. Visible 12 miles.
40. SOUTH FORELAND. White square castellated tower (disused tower visible lower) on cliff near Dover. 1 flash every  $2\frac{1}{2}$  seconds. Visible 26 miles. 1,000,000 C.P.
41. SOUTH GOODWIN LIGHTVESSEL (*formerly* South Sand Head). S. end of Goodwin Sands. 2 flashes (short, long) every 30 seconds. Visible 11 miles. Light-tower amidships. 8,000 C.P.
42. EAST GOODWIN LIGHTVESSEL.  $1\frac{1}{2}$  miles E. of Goodwin Sands. Light-tower amidships. 1 flash every 10 seconds. Visible 11 miles. 20,000 C.P.



## Lighthouses and Lightvessels

- 43. BRAKE LIGHTVESSEL (*replaced former GULL LIGHT*). 2 cones at masthead. 1 red flash every 20 seconds. Visible 10 miles.
- 44. NORTH GOODWIN LIGHTVESSEL. N. end of Goodwin Sands. Triangle at masthead. 3 flashes every minute. Visible 11 miles. 12,000 C.P.
- 45. NORTH FORELAND. White octagonal tower on cliffs near Margate. 5 white flashes every 20 seconds (red arc). Visible 20 miles. 35,000 C.P.

## THAMES ESTUARY

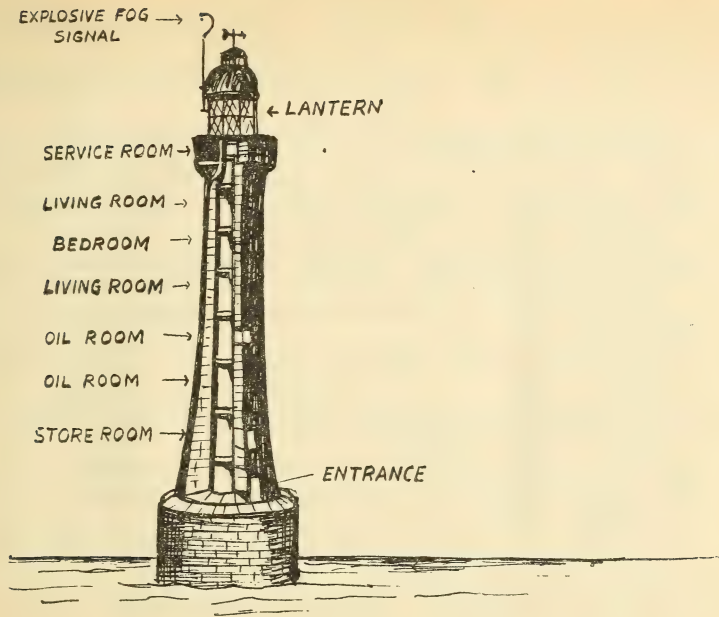
- 46. TONGUE LIGHTVESSEL. Ball at masthead. 2 flashes (alternating red and white) every 30 seconds. Visible 11 miles. 8,000 C.P.
- 47. EDINBURGH CHANNEL LIGHTVESSEL. Light-tower amidships. 1 flash every 5 seconds. Visible 10 miles. 2,500 C.P.
- 48. BARROW DEEP LIGHTVESSEL. Light-tower amidships. 1 flash every 15 seconds. Visible 9 miles.
- 49. GIRDLER LIGHTVESSEL. Light-tower amidships. 1 flash every 30 seconds. Visible 10 miles. 275,000 C.P.
- 50. NORE LIGHTVESSEL. Ball at masthead. Revolving. 1 flash every 30 seconds. Visible 10 miles. 2,000 C.P.
- 51. CHAPMAN. Pile lighthouse. Group occulting. 2 eclipses every 30 seconds (red arc). Visible 11 miles.
- 52. MID-BARROW LIGHTVESSEL. Light-tower amidships. 2 flashes, alternating red and white, every 30 seconds. Visible 9 miles.
- 53. MOUSE LIGHTVESSEL. Light-tower amidships. 1 red flash every 20 seconds. Visible 10 miles.

## **Ships and the Sea**

- 54. SWIN MIDDLE LIGHTVESSEL. Lantern at top of lattice structure. 3 flashes every 15 seconds. Visible 10 miles.
- 55. GUNFLEET. Red pile lighthouse. 1 red flash every 15 seconds. Visible 11 miles.
- 56. SUNK LIGHTVESSEL. Light-tower amidships. 2 flashes every 30 seconds. Visible 11 miles.
- 57. KENTISH KNOCK LIGHTVESSEL. Light-tower amidships; 2 masts. 3 red flashes every 15 seconds. Visible 11 miles.
- 58. GALLOPER LIGHTVESSEL. 2 cones on mainmast. 1 flash every 30 seconds. Visible 11 miles.

## **EAST COAST**

- 59. CORK LIGHTVESSEL. Ball at masthead. Revolving. 1 flash every 30 seconds. Visible 10 miles.
- 60. SHIPWASH LIGHTVESSEL. Ball at masthead. 3 flashes every 30 seconds. Visible 11 miles.
- 61. ORFORDNESS. Tower. 1 flash every 5 seconds. Visible 16 miles. Low fixed light (red and green arcs), visible 12 miles.
- 62. OUTER GABBARD LIGHTVESSEL. Light-tower amidships; two masts. 4 flashes every 15 seconds. Visible 11 miles.
- 63. SOUTHWOLD. White tower in centre of town. Double occulting (white and red arcs) every 20 seconds. Visible 17 miles.
- 64. LOWESTOFT. White tower on cliffs. Revolving. 1 flash every 30 seconds. Visible 17 miles. Lower fixed light, visible 15 miles.



## **Ships and the Sea**

65. CORTON LIGHTVESSEL. Ball at masthead. 1 red flash every 20 seconds. Visible 11 miles.
66. CROSS SAND LIGHTVESSEL. Light-tower amidships. 2 flashes every 30 seconds. Visible 11 miles.
67. ST. NICHOLAS LIGHTVESSEL. 2 flashes (alternating white and red) every 40 seconds. Visible 11 miles.
68. COCKLE LIGHTVESSEL. Revolving light. 1 flash every minute. Visible 10 miles.
69. NEWARP LIGHTVESSEL. Light-tower amidships; two masts. 1 flash every 10 seconds. Visible 11 miles.
70. SMITH'S KNOLL LIGHTVESSEL. Light-tower amidships; two masts. 2 flashes (alternating red and white) every 20 seconds. Visible 11 miles.
71. HASBOROUGH. White tower with 3 red bands. 3 flashes every 30 seconds. Visible 17 miles.
72. HASBOROUGH LIGHTVESSEL. Globe at masthead. 4 flashes every 20 seconds. Visible 11 miles.
73. CROMER. White octagonal tower near cliff. Revolving. Maximum light every minute. Visible 23 miles.
74. LYNN WELL LIGHTVESSEL. 1 flash every 10 seconds. Visible 11 miles.
75. EAST DUDGEON LIGHTVESSEL. Ball at masthead. 3 flashes every minute. Visible 10 miles.
76. INNER DOWSING LIGHTVESSEL. Half-globe at masthead. 1 flash every 5 seconds. Visible 11 miles.
77. CROMER KNOLL LIGHTVESSEL. Triangle at masthead. 3 flashes (white, red, white) every 45 seconds. Visible 11 miles.

## Lighthouses and Lightvessels

78. OUTER DOWSING LIGHTVESSEL. Light-tower amidships; 2 masts. 2 flashes every 10 seconds. Visible 11 miles.
79. HUMBER LIGHTVESSEL. Ball at masthead. 1 flash every minute. Visible 11 miles.
80. SPURN POINT. Black tower with white band, on cliff. 1 flash every 20 seconds. Visible 17 miles. Fixed light (red arc) visible 13 miles. Lower fixed light, visible 12 miles.
81. BULL LIGHTVESSEL. Lantern on steel tower. 2 flashes (white and red) every 20 seconds. Visible 10 miles.
82. WITHERNSEA. White tower. Triple occulting every minute. Visible 17 miles.
83. FLAMBOROUGH HEAD. White tower on headland. 4 flashes every 15 seconds. Visible 21 miles.
84. SCARBOROUGH. On mast at elbow of pier. Fixed red light, not shown when water below 12 feet. Visible 13 miles.
85. WHITBY. White, octagonal tower on Ling Hill. Occulting white (with red arc) every 30 seconds. Visible 22 miles.
86. TEES. White tower on end of S. Gare breakwater. 1 flash, with red arc, every 12 seconds. Visible 10 miles.
87. HARTLEPOOL. White tower. 2 flashes every 10 seconds. Visible 13 miles.
88. SEAHAM. Tower on N. pier. 1 flash every 10 seconds. Visible 11 miles.
89. SUNDERLAND. Tower on N. pier. High fixed white light. Low fixed green light. Visible 5 miles.  
Tower on end of Roker Pier. 1 flash every 5 seconds. Visible 15 miles.

## Ships and the Sea

90. SOUTER POINT. White tower with 1 red band, on point. 1 red flash every 5 seconds. Visible 18 miles. Lower fixed light (red arc), visible 17 miles.
91. TYNE. Stone tower on N. pier. 3 flashes every 10 seconds. Visible 15 miles.
92. NORTH SHIELDS. 1 fixed light, visible 16 miles. 1 low light, visible 13 miles.
93. ST. MARY'S. White cylindrical tower on islet. 2 flashes every 20 seconds. Visible 17 miles.
94. BLYTH. 2 white towers; rear one round, showing fixed light, visible 15 miles. Front one, square, showing fixed light, visible 7 miles.
95. COQUET. Square tower on S.W. part of island. Occulting (white and red arcs) every 30 seconds. Visible 14 miles. Fixed light (red arc), visible 13 miles.
96. BAMBURGH. Double occulting (white and red arcs) every 15 seconds. Visible 12 miles.
97. FARN. White tower near S.W. point of island. Occulting (red arc) every 10 seconds. Visible 15 miles.
98. LONGSTONE. Red tower with 1 white band, on W. side of islet. 1 flash every 30 seconds. Visible 14 miles.
99. BERWICK. Stone tower with red top and base. 1 fixed light. Visible 12 miles. 1 fixed red light visible 8 miles; only shown when 10 feet or more of water on bar.

## Lighthouses and Lightvessels

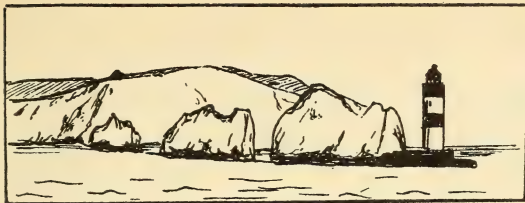
### SCOTLAND (EAST COAST)

100. ST. ABB'S HEAD. White tower on headland. 1 flash every 10 seconds. Visible 21 miles.
101. BARNES NESS. White tower on ness near Dunbar. 3 flashes every 30 seconds. Visible 17 miles.
102. BASS ROCK (Firth of Forth). White tower on S. side of rock. 6 flashes every 30 seconds. Visible 18 miles.
103. FIDRA ISLAND. Red brick tower near summit. 2 flashes every 15 seconds. Visible 16 miles.
104. INCHKEITH. White tower near summit of island. Revolving. 1 flash every 30 seconds. Visible 21 miles.
105. MAY ISLAND. Square tower on summit. 1 flash every 20 seconds. Visible 21 miles.
106. NORTH CARR LIGHTVESSEL. 2 flashes every 30 seconds. Visible 11 miles.
107. BELL ROCK. White tower near N.E. end of reef. 2 flashes (white and red) every minute. Visible 15 miles.
108. ABERTAY (River Tay) LIGHTVESSEL. 2 masts. 1 flash every 10 seconds. Visible 8 miles.
109. BUDDONNESS (leading lights). 2 white towers 400 yards apart on low ness. Rear tower shows two fixed lights visible 16 and 14 miles respectively. Front tower 1 fixed light visible 13 miles.
110. MONTROSE (Scyrdyness). White tower on ness. Occulting every minute. Visible 17 miles.

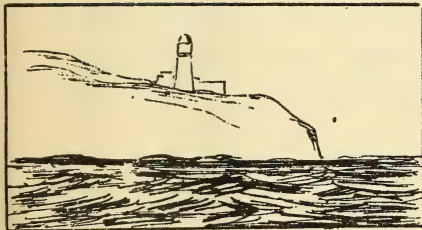


## **Ships and the Sea**

- 111. **TOD HEAD.** White tower on head. 6 flashes every 30 seconds. Visible 17 miles.
- 112. **GIRDLENESS.** Stone tower on ness. 2 flashes every 20 seconds. Visible 19 miles.
- 113. **BUCHAN NESS.** Stone tower on the ness. 1 flash every 5 seconds. Visible 17 miles.
- 114. **PETERHEAD.** Stone tower, S. Harbour. Fixed light (red arc). Visible 10 miles.
- 115. **RATTRAY HEAD.** White tower on Ron Rock. 3 flashes every 30 seconds. Visible 15 miles.
- 116. **KINNAIRD HEAD.** White tower on headland. 1 flash every 15 seconds. Visible 17 miles.
- 117. **COVESEA SKERRIES.** Stone tower on Craig Head. Revolving. 1 flash with red arc every 30 seconds. Visible 18 miles.
- 118. **CROMARTY.** Stone tower on point. Green occulting every 10 seconds. Visible 13 miles.
- 119. **TARBET NESS.** White tower near end of point. 6 flashes every 30 seconds. Visible 18 miles.
- 120. **CLYTHE NESS.** Granite tower with red band. 2 flashes every 30 seconds. Visible 18 miles.
- 121. **NOSS HEAD.** Stone tower on head. Revolving. 1 flash (red arc) every 30 seconds. Visible 18 miles.
- 122. **DUNCANSBY HEAD.** 1 flash every 6 seconds. Visible 20 miles.



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6. *The Needles (Isle of Wight.)*

8. *The Lizard (S. Cornwall).*

7. *Start Point (S. Devon).*

9. *Longships (Lands End).*

### **Ships and the Sea**

- 123. PENTLAND SKERRIES. Stone tower on island. 3 flashes every 30 seconds. Visible 19 miles.
- 124. STROMA. White tower on point. 6 flashes every 30 seconds. Visible 16 miles.
- 125. DUNNET HEAD. Stone tower on headland. 4 flashes every 30 seconds. Visible 25 miles.
- 126. HOLBURN. White tower on headland. 1 flash every 10 seconds. Visible 14 miles.

### **ORKNEYS**

- 127. CANTICK HEAD. White tower on headland. Revolving every minute. Visible 16 miles.
- 128. COPINSAY. Tower. 5 flashes every 30 seconds. Visible 22 miles.
- 129. HOY SOUND. 2 towers a mile apart. High light (white and red arcs) on N.E. point of Grensa. Visible 16 miles. Low light on N.W. point. Visible 12 miles.
- 130. AUSKERRY. White tower on S.E. point of island in Stromsa Firth. Fixed light. Visible 16 miles.
- 131. NORTH RONALDSAY. Red brick tower with two white bands near top. 1 flash every 10 seconds. Visible 18 miles.
- 132. FAIR ISLE. White tower on the Skroo. 2 flashes every 30 seconds. Visible 23 miles.
- 133. NOUP HEAD. White tower on N.W. edge of cliff. 5 flashes every minute. Visible 22 miles.

## Lighthouses and Lightvessels

### SHETLANDS

- 134. SUMBURGH HEAD. Stone tower on S.W. point of Shetlands. 3 flashes every 30 seconds. Visible 24 miles.
- 135. BRESSAY. White tower on E. side of entrance to Lerwick. Revolving (alternate white and red) every minute. Visible 16 miles.
- 136. OUT SKERRIES. White tower on Bound Skerry. Revolving. 1 flash every minute. Visible 18 miles.
- 137. NORTH UIST. White tower on Muckle Flugga. 2 flashes (red arc) every 20 seconds. Visible 21 miles.
- 138. FUGLA NESS. W. Coast of Burra Island, entrance to Scalloway. Fixed white and red. Visible 12 miles.
- 139. SKULE SKERRY. White tower on S.E. part. 3 flashes every 30 seconds. Visible 17 miles.

### SCOTLAND

- 140. CAPE WRATH. White tower on S.E. part. 2 flashes (alternate white and red) every minute. Visible 27 miles.
- 141. RU STOER. White tower on head. Occulting every 45 seconds. Visible 20 miles.
- 142. RUDH'RE. N.W. extremity of head. 6 flashes every 30 seconds. Visible 17 miles.
- 143. SOUTH RONA. White tower on S.E. point of island. 1 flash every 12 seconds. Visible 21 miles.
- 144. EILEAN TRODDA. Beacon on summit of island, Skye. 2 flashes (white, red and green sectors) every 10 seconds. Visible 18 miles.

## **Ships and the Sea**

### **HEBRIDES**

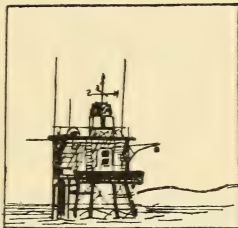
- 145. BUTT OF LEWIS. Red brick tower on N. point. 1 flash every 21 seconds. Visible 19 miles.
- 146. TIUMPAN HEAD. White circular tower. 2 flashes every 30 seconds. Visible 19 miles.
- 147. STORNOWAY. White tower on Arnish Point. Revolving. 1 flash every 30 seconds. Visible 13 miles.
- 148. GLAS ISLAND. Tower with red and white bands on S.E. end of Scalpay Island. 3 flashes every 20 seconds. Visible 17 miles.
- 149. SKEIRINOE LIGHTVESSEL. Unwatched. 1 flash every 6 seconds. Visible 10 miles.
- 150. USHINISH. White tower E. side of S. Uist. 1 flash (8 seconds) every 24 minutes. Visible 18 miles.
- 151. BARRA HEAD. Stone tower on summit of Berbera Island. Occulting every minute. Visible 33 miles.
- 152. MONACH. White tower on W. end of Shillay. 1 flash every 10 seconds. Visible 18 miles.
- 153. FLANNAN ISLANDS. Tower on Eilean Mor. 2 flashes every 30 seconds. Visible 24 miles.
- 154. HYSKIER ROCKS. White tower S. end of rocks. 3 flashes every 30 seconds. Visible 17 miles.
- 155. SKERRYVORE. Stone tower on rock. 1 flash every 20 seconds. Visible 18 miles.



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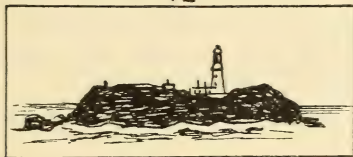
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10 *Hartland Point (N. Devon).* 11 *The Mumbles (S. Wales).* 12 *Belfast Lough.*  
13 *Fastnet (Irish Coast).* 14 *Round Island (Scillies).*

## Ships and the Sea

- 156. ARDNAMURCHAN. Stone tower with black lantern, on point. 2 flashes every 30 seconds. Visible 18 miles.
- 157. NEIST POINT. White tower W. coast of Skye. 2 flashes every 30 seconds. Visible 18 miles.
- 158. LISMORE. Grey tower on Musdile Islet. Fixed light. Visible 16 miles.
- 159. RUDHA MHAIL. White tower with black band, N. point of Islay Island. Fixed white and red. Visible 18 miles.
- 160. MACARTHUR HEAD. White tower S.E. end of Sound of Islay. Fixed white and red. Visible 18 miles.
- 161. RHYNNS OF ISLAY. White tower on Oversay Island off S.W. point of Islay. 1 flash every 5 seconds. Visible 18 miles. 233,000 C.P.
- 162. OTTER ROCK LIGHTVESSEL. Unattended. 2 flashes every 15 seconds. Visible 10 miles.
- 163. MULL OF CANTYRE. White tower on S.W. headland of Cantyre. 2 flashes every 30 seconds. Visible 24 miles. 281,000 C.P.
- 164. SANDA. Stone tower on Ship Rock. 1 flash (red arc) every 24 seconds. Visible 18 miles. 61,000 C.P.
- 165. DAVARR. Stone tower (black dome) on N.E. point. Revolving. 1 flash every 30 seconds. Visible 17 miles.
- 166. PLADDA. White tower on island. 3 flashes every 30 seconds. Visible 17 miles. 1,000,000 C.P.
- 167. HOLY ISLAND (Firth of Clyde). White square tower on Pillar Rock. 1 flash every 15 seconds (alternating red and white). Visible 17 miles. 392,000 C.P.
- 168. CUMBRAE. White tower W. side of Little Cumbrae Island. 2 flashes every 30 seconds. Visible 16 miles. 158,000 C.P.



### Lighthouses and Lightvessels

- 169. TOWARD. White tower on point. 1 flash every 10 seconds. Visible 14 miles.
- 170. CLOCH. White tower S. side of entrance to Clyde. 1 flash every 5 seconds. Visible 14 miles.
- 171. ARDROSSAN. White tower on S. breakwater. Occulting every 4 seconds (red arc). Visible 10 miles.
- 172. LADY ISLE. High tower on approach to Troon. 4 flashes every 30 seconds. Visible 12 miles.
- 173. AILSA CRAIG. Tower on gravel spit. 6 flashes every 30 seconds. Visible 13 miles. 40,000 C.P.
- 174. TURNBERRY. White tower. 1 flash every 12 seconds. Visible 15 miles. 6,000 C.P.
- 175. CORSEWALL. White tower on W. side of entrance to Lock Ryan. 1 flash every 12 seconds. Visible 15 miles. 95,000 C.P.
- 176. KILLANTRINGAN. White cylindrical tower in vicinity of Black Head. 2 flashes every 30 seconds. Visible 19 miles. 840,000 C.P.
- 177. MULL OF GALLOWAY. Stone lighthouse on S.E. point. Occulting every  $22\frac{1}{2}$  seconds. Visible 25 miles. 29,000 C.P.
- 178. LITTLE ROSS. White tower. 1 flash every 5 seconds. Visible 18 miles.

### WEST COAST OF ENGLAND AND WALES

- 179. ST. BEES. White tower on head. Double occulting every 30 seconds. Visible 25 miles.

## Ships and the Sea

### ISLE OF MAN

- 180. AYRE POINT. White tower with 2 red bands. Alternate flashes (8 seconds each), white and red, every minute. Visible 16 miles. 66,000 C.P.  
At end of point. Fixed white light, visible 10 miles.
- 181. CHICKEN ROCK. Granite tower near S. end of Calf. Revolving. 1 flash every 30 seconds. Visible 16 miles. 173,000 C.P.
- 182. LANGNESS. Tower on S.E. part of point. 1 flash every 5 seconds. Visible 14 miles. 9,000 C.P.
- 183. DOUGLAS HEAD. White stone tower on head. 6 flashes every 30 seconds. Visible 14 miles.

### WEST COAST OF ENGLAND AND WALES—*contd.*

- 184. MORECAMBE BAY LIGHTVESSEL. Black ball. 2 flashes every 30 seconds. Visible 11 miles.
- 185. NORTH WEST LIGHT LIGHTVESSEL (Mersey). Unwatched. Revolving. 1 flash every 30 seconds. Visible 11 miles.
- 186. BAR LIGHTVESSEL. Red tower. Two masts, on each of which is a red ball. 3 flashes every 30 seconds. Visible 10 miles. 4,000 C.P.
- 187. FORMBY LIGHTVESSEL. Two masts, red ball on foremast. Red flash every 5 seconds. Visible 8 miles. 4,000 C.P.
- 188. CROSBY LIGHTVESSEL. Two masts, red lantern on foremast. 1 flash every 10 seconds. Visible 10 miles. 4,000 C.P.

## Lighthouses and Lightvessels

189. ROCK. White tower, W. side entrance to Mersey. 1 flash every 20 seconds. Visible 13 miles. 8,000 C.P.
190. GREAT ORME HEAD. Square building on cliff. 4 flashes every 30 seconds (red arc). Visible 24 miles. 13,000 C.P.
191. MENAI. White tower with 3 black bands. 1 flash every  $5\frac{1}{2}$  seconds. Visible 13 miles.
192. LYNUS. White building on point. Occulting every 10 seconds. Visible 16 miles. 10,000 C.P.
193. SKERRIES. White tower with one red band. 2 flashes every 10 seconds. Visible 17 miles. Fixed red, visible 15 miles. 4,000,000 C.P.
194. HOLYHEAD. Square tower on breakwater. 1 red flash every  $7\frac{1}{2}$  seconds. Visible 14 miles. 31,000 C.P.
195. SOUTH STACK. White tower. 1 flash every 10 seconds. Visible 18 miles. 274,000 C.P.
196. CARNARVON BAY LIGHTVESSEL. Small ball over large masthead. Revolving. Flashes 2 white and 1 red every 20 seconds. Visible 11 miles.
197. BARDSEY. Square tower with two red bands. 5 flashes every 15 seconds. Visible 17 miles. 270,000 C.P.
198. ST. TUDWAL. White tower on W. Island. 1 flash (white and red arcs) every 20 seconds. Visible 18 miles. 12,000 C.P.
199. STRUMBLE. On Strumble Head. 4 flashes every 15 seconds. Visible 18 miles. 400,000 C.P.
200. SOUTH BISHOP. White tower on rock. Revolving. 1 flash every 20 seconds. Visible 18 miles. 129,000 C.P.

## Ships and the Sea

201. SMALLS. Granite tower with red and white bands, on rock. 3 flashes every 15 seconds. Visible 17 miles. Fixed red light, visible 16 miles. 477,000 C.P.
202. SKOKHAM ISLANDS (Bristol Channel). Tower at S.W. end. Red flash every 10 seconds. Visible 20 miles.
203. ST. ANN'S HEAD. Tower. Occulting (red arc) every 30 seconds. Visible 18 miles.
204. MILFORD HAVEN. 2 square white towers with black vertical stripe on each. Upper light occults every 12 seconds. Visible 16 miles. Lower light flashes every 2 seconds, visible 14 miles.
205. ST. GOVENS SHOAL LIGHTVESSEL. Diamond at masthead. 1 flash every 15 seconds. Visible 10 miles.
206. CALDY ISLAND. White tower on S. part of island. 3 flashes (red arc) every 20 seconds. Visible 20 miles.
207. HELWICK LIGHTVESSEL. Ball at masthead. 1 flash every 30 seconds. Visible 11 miles.
208. MUMBLES. White tower on outer islet. Double occulting every 20 seconds. Visible 15 miles.
209. SCARWEATHER LIGHTVESSEL. Half-ball over ball at masthead. 1 flash every 5 seconds. Visible 11 miles.
210. NASH POINT. High tower, black and white bands. Occulting every 30 seconds (red and white arcs). Visible 19 miles.
211. BREAKSEA LIGHTVESSEL. Ball at masthead. Revolving. 1 flash every 15 seconds. Visible 11 miles.



*In Thames Estuary*



*In Mersey*



*In Thames Estuary*



*In Thames Estuary*



*E. Coast*



*Persian Gulf*

SOME REPRESENTATIVE BRITISH LIGHTVESSELS.

## Ships and the Sea

- 212. FLATHOLM. White tower on S. point. Double occulting every 30 seconds (red and white arcs). Visible 18 miles.
- 213. ENGLISH AND WELSH GROUNDS LIGHTVESSEL. Ball at masthead. Revolving. 1 flash every 30 seconds. Visible 11 miles.
- 214. BLACKNORE. White tower on point. 2 flashes every 10 seconds. Visible 11 miles.
- 215. BURNHAM. White tower with red stripe. Double occulting every minute. Visible 15 miles.
- 216. THE FORELAND (Lynmouth). White tower on cliff. 4 flashes every 15 minutes. Visible 21 miles.
- 217. BULL POINT. White tower on cliff. 3 flashes every 30 seconds. Visible 18 miles. Fixed red light, visible 17 miles.
- 218. LUNDY ISLAND, NORTH. White tower near N.E. end. 2 flashes every 20 seconds. Visible 19 miles. 374,000 C.P.
- 219. LUNDY ISLAND, SOUTH. White tower. 1 flash every 30 seconds. Visible 19 miles. 206,000 C.P.
- 220. HARTLAND POINT. White tower on point. 6 flashes every 15 seconds. Visible 17 miles. 1,250,000 C.P.
- 221. TREVOSE HEAD. White tower on cliff. 1 red flash every 5 seconds. Visible 20 miles. 248,000 C.P.
- 222. GODREVY ISLAND. Unattended. Stone tower on island. 1 flash (red arc) every 10 seconds. Visible 17 miles. 68,000 C.P.
- 223. PENDEEN. Circular white tower. 4 flashes every 15 seconds. Visible 20 miles. 2,000,000 C.P.

## Lighthouses and Lightvessels

### IRELAND

(Irish lightvessels are painted black)

- 224. FASTNET. Granite tower on rock. 1 flash every 5 seconds. Visible 19 miles.  
750,000 C.P.
- 225. GALLEY HEAD. White tower on cliff. 5 flashes every 20 seconds. Visible  
19 miles. 300,000 C.P.
- 226. KINSALE HEAD. White tower with 2 red bands, on Old Head. 2 flashes every  
10 seconds. Visible 21 miles. 460,000 C.P.
- 227. DAUNT ROCK LIGHTVESSEL. 2 masts, lantern on mainmast, black globe on  
jigger. Red flash every 30 seconds. Visible 11 miles. 28,000 C.P.
- 228. ROCHE POINT. White tower on E. side of entrance to Cork Harbour. Occult-  
ing (red arcs) every 20 seconds. Visible 15 miles. Fixed low light,  
visible 13 miles.
- 229. BALLYCOTTON. Black stone tower on island. 1 flash every 10 seconds.  
Visible 20 miles. 160,000 C.P.
- 230. MINE HEAD. Tower on headland. 4 flashes every 20 seconds. Visible 23  
miles. 230,000 C.P.
- 231. HOOK POINT (Waterford). Tower with three red belts, on E. side of entrance.  
1 flash every 3 seconds. Visible 18 miles. 279,000 C.P.
- 232. CONINBEG LIGHTVESSEL. 3 masts, lantern on foremast, black globe at main-  
mast. 3 flashes every minute. Visible 10 miles. 90,000 C.P.
- 233. BARRELS ROCK LIGHTVESSEL. 2 masts, lantern on mainmast, barrel on jigger.  
2 red flashes every 30 seconds. Visible 11 miles. 28,000 C.P.



## Ships and the Sea

- 234. TUSKAR ROCK. White tower. Alternating white and red flashes every 2 minutes. Visible 16 miles. 340,000 C.P.
- 235. LUCIFER BANK LIGHTVESSEL. 2 masts, lantern on mainmast. 1 red flash every 45 seconds. Visible 11 miles.
- 236. BLACKWATER BANK LIGHTVESSEL. 2 masts, lantern on mainmast. 1 flash every 15 seconds. Visible 11 miles.
- 237. ARKLOW LIGHTVESSEL. 2 masts, lantern on mainmast, half-globe over globe at jigger masthead. 1 flash every 45 seconds. Visible 11 miles.
- 238. WICKLOW HEAD. White tower. 3 flashes every 15 seconds. Visible 17 miles.
- 239. CODLING BANK LIGHTVESSEL. 2 masts, lantern on mainmast, globe over half-globe at jigger masthead. Revolving. 1 red flash every 20 seconds. Visible 11 miles.
- 240. KISH LIGHTVESSEL. 2 masts, lantern on mainmast, globe at jigger masthead. Revolving. 1 flash every minute. Visible 11 miles.
- 241. KINGSTOWN. Granite tower on E. pierhead. 2 flashes every 15 seconds. Visible 12 miles.
- 242. ROCKABILL. Grey tower. 1 flash (red arc) every 12 seconds. Visible 18 miles.
- 243. HAULBOWLINE ROCK. White tower at entrance to Loch Carlingford. Triple-occulting every 10 seconds. Visible 16 miles. Fixed red.
- 244. ST. JOHN'S POINT. Tower with black and white bands, on E. side of Dundrum Bay. 2 flashes every  $7\frac{1}{2}$  seconds. Visible 16 miles. 460,000 C.P. Fixed light (red arc), visible 10 miles.

### Lighthouses and Lightvessels

245. SOUTH ROCKS LIGHTVESSEL. 2 masts, lantern on mainmast, black globe at mainmast-head. 2 flashes every 45 seconds. Visible 11 miles. 12,000 C.P.
246. SKULMARTIN LIGHTVESSEL. 2 masts, lantern on mainmast, 2 black half-globes at jigger masthead. 1 red flash every minute. Visible 11 miles. 28,000 C.P.
247. MEW ISLAND. Black tower on E. point. 4 flashes every minute. Visible 17 miles. 177,000 C.P.
248. BLACK HEAD. Red tower on N. side entrance to Belfast Bay. 1 flash every 3 seconds. Visible 18 miles. 169,000 C.P.
249. LOUGH LARNE. White tower on E. side of entrance. Fixed light. Visible 11 miles. Red arc, visible 9 miles. 1,000 C.P.
250. MAIDENS. White tower with red central band, on rock. 3 flashes every 20 seconds. Visible 15 miles. 1 red flash every 3 seconds, visible 12 miles. 270,000 C.P.
251. EAST RATHLIN. White tower with red band. 4 flashes (red arc) every 20 seconds. Visible 22 miles. 230,000 C.P.
252. WEST RATHLIN. 1 flash every 5 seconds. Visibility 20 miles. 250,000 C.P.
253. INISTRAHULL. White tower on N.E. part of island. Revolving. 1 flash every 30 seconds. Visible 18 miles. 200,000 C.P.
254. FANAD HEAD (Lough Swilly). White tower. 6 flashes every 15 seconds. Visible 17 miles. Fixed light, visible 13 miles. 57,000 C.P.
255. TORY ISLAND. Black tower on N.W. part of island. 4 flashes every 30 seconds. Visible 17 miles. 1,500,000 C.P.

### **Ships and the Sea**

- 256. ARAN ISLAND. White tower on N.W. point. Revolving. Alternate white and red flashes every 40 seconds. Visible 22 miles.
- 257. RATHLIN O'BIRNE. White tower with red dome, on W. side of island. 1 flash (red arc) every 15 seconds. Visible 16 miles.
- 258. SLIGO BAY. White tower on Black Rock. 2 fixed red and white. Visible 13 miles.
- 259. BLACK ROCK. White tower on W. extremity. 2 flashes every 5 seconds. Visible 22 miles.
- 260. CLARE ISLAND. White tower on N. point of island. 1 flash every 5 seconds. Visible 25 miles.
- 261. SLYNE HEAD. Black tower on island. Fixed light (red arc). Visible 16 miles.
- 262. ARRAN ISLANDS, EARAGH ISLAND. White tower with 2 red bands. Revolving 1 flash every minute. Visible 16 miles.
- 263. LOOP HEAD. White tower. 4 flashes every 20 seconds. Visible 22 miles.
- 264. KILCRADAN HEAD (Shannon). White tower. Fixed red and white. Visible 16 miles.
- 265. TEARAGHT. Tower on W. end of Blasket Islands. 2 flashes every minute. Visible 23 miles.
- 266. SKELLIGS. Tower on highest rock  $7\frac{1}{2}$  miles off shore. 3 flashes every 10 seconds. Visible 18 miles.
- 267. BULL ROCK. Tower on side of rock. 1 flash every 15 seconds. Visible 23 miles.



#### SOME WELL KNOWN FOREIGN LIGHTVESSELS

1. "Ambrose Channel" in approaches to New York (self-propelled).
2. "Elbe 3" in the Elbe, Germany.
3. "Sydostbrotten" off the Swedish Coast.

**Ships and the Sea**  
**ome Important European Lights.**

**GRIS-NEZ TO GIBRALTAR.**

- A. GRIS-NEZ. Tower. Lightning flash every 5 seconds. Visible 22 miles.
- B. BOULOGNE. Turret on jetty. Fixed green. Visible 6 miles.
- C. FÉCAMP. Turret on jetty. 2 flashes every 10 seconds. Visible 12 miles.
- D. CAPE D'ANTIFER. Tower on cliff. 1 flash every 20 seconds. Visible 27 miles.
- E. CAPE LA HEVE. Tower on cliff. 1 flash every 5 seconds. Visible 27 miles.
- F. CAPE BARFLEUR. Tower on the cliff. 2 flashes every 10 seconds. Visible 22 miles.
- G. CAPE LA HAGUE. Tower on rock. 1 flash every 5 seconds. Visible 20 miles.
- H. OUESSANT (USHANT). Two towers joined, on N.E. end of island. 3 flashes, white, white, red, every minute. Visible 23 miles.  
Tower on N.W. point. 2 flashes every 10 seconds. Visible 21 miles.
- I. PORT NAVALO (Quiberon Bay). 1 fixed light. Visible 10 miles. 1 fixed light, visible 15 miles.
- J. CAPE MACHICHACO. Tower near old lighthouse. 1 flash every 45 seconds. Visible 35 miles.
- K. CAPE PENAS. Tower on the cliff. Fixed light. Visible 16 miles. 1 flash every 30 seconds, visible 21 miles
- L. CAPE BUSTO. Tower. 1 fixed. Visible 18 miles. 1 red flash every 2 minutes, visible 20 miles.

### Lighthouses and Lightvessels

- M. ESTACA POINT. Tower on cliff. 1 flash every minute. Visible 23 miles.
- N. CAO E PRIOR. House with tower. Group-occulting every 16 seconds. Visible 19 miles.
- O. CORUNA. Tower. 1 flash every 3 minutes. Visible 19 miles.
- P. CAPE FINISTERRE. Granite tower. Fixed. Visible 26 miles. 1 flash every 30 seconds, visible 16 miles.
- Q. CAPE MONDEGO. Tower. 1 flash every  $7\frac{1}{2}$  minutes. Visible 24 miles.
- R. BURLINGS. Tower on Great Burling. 3 flashes every 30 seconds. Visible 26 miles.
- S. CAPE ROCA. Tower on cliff. 1 flash every 4 seconds. Visible 30 miles.
- T. CAPE ST. VINCENT. Pyramidal structure. 1 flash every 5 seconds. Visible 22 miles.
- U. CAPE TRAFALGAR. Tower on cliff. Revolving. 1 flash every 30 seconds, showing fixed within 12 miles. Visible 19 miles.
- V. TARIFA. Tower at S. end of peninsula. 3 flashes (red arcs) every 15 seconds. Visible 18 miles.
- W. GIBRALTAR (EUROPA POINT). Tower. Double occulting (red arcs) every 30 seconds. Visible 18 miles.

## CHAPTER III

# Distance Tables

### Coasting.

LONDON (Gravesend) to

Aberdeen . . .	410 miles
Bristol . . .	530 „
Cardiff . . .	510 „
Dover . . .	75 „
Dundee . . .	400 „
Glasgow . . .	760 „
Hull . . .	215 „
Leith . . .	390 „
Liverpool . . .	640 „
Manchester . . .	680 „
Middlesbrough . . .	280 „
Plymouth . . .	300 „
Queenstown . . .	500 „
Southampton . . .	200 „
Swansea . . .	480 „
Sunderland . . .	300 „



## Distance Tables

### LONDON (London Bridge) to GIBRALTAR.

The famous Tower Bridge at London raises its bascules to let ships through on the average about 5,000 times in the year, and the average delay to traffic is  $4\frac{1}{2}$  minutes each time; since the bridge was opened the roadway has been raised nearly 270,000 times.

Distances from London Bridge down the Channel are as follows:—

LONDON BRIDGE to Woolwich . . . .	9 miles
Woolwich to Gravesend . . . .	15 „
Gravesend to Nore Light . . . .	20 „
Nore to North Foreland . . . .	30 „
North Foreland to Dover . . . .	19 „
Dover to Dungeness . . . .	18 „
Dungeness to Beachy Head . . . .	30 „
Beachy Head to St. Catherine's Point . . . .	60 „
St. Catherine's to Portland . . . .	46 „
Portland to Start Point . . . .	50 „
Start Point to Prawle Point . . . .	4 „
Prawle Point to Eddystone Light . . . .	20 „
Eddystone to Lizard . . . .	40 „
Lizard to Longships . . . .	24 „
Longships to Ushant . . . .	60 „
Ushant to Finisterre . . . .	400 „
Finisterre to Cape St. Vincent . . . .	350 „
St. Vincent to Gibraltar . . . .	170 „

## Ships and the Sea

### LONDON—LIZARD via E. COAST.

NORE to Mouse . . . . .	4 miles
Mouse to Gunfleet . . . . .	23 "
Gunfleet to Sunk . . . . .	12 "
Sunk to Shipwash . . . . .	10 "
Shipwash to Orfordness . . . . .	5 $\frac{3}{4}$ "
Orfordness to North Foreland . . . . .	44 "
Orfordness to Lowestoft . . . . .	25 "
Lowestoft to Yarmouth . . . . .	8 "
Yarmouth to Cromer Knoll . . . . .	30 "
Cromer Knoll to East Dudgeon . . . . .	24 "
East Dudgeon to Spurn Head . . . . .	33 "
Spurn Head to Flamborough Head . . . . .	25 "
Flamborough Head to Scarborough . . . . .	15 "
Scarborough to Whitby . . . . .	13 "
Whitby to Hartlepool . . . . .	26 "
Hartlepool to Sunderland . . . . .	15 "
Sunderland to Tynemouth . . . . .	7 "
Tynemouth to Berwick . . . . .	54 "
Berwick to St. Abb's Head . . . . .	10 "
St. Abb's Head to Bass Rock . . . . .	20 "
Bass Rock to May Island . . . . .	8 "
May Island to Buddonness . . . . .	60 "
Buddonness to Girdleness . . . . .	49 "
Girdleness to Buchanness . . . . .	22 "
Buchanness to Peterhead . . . . .	3 "
Peterhead to Kinnaird Head . . . . .	20 "

### Distance Tables

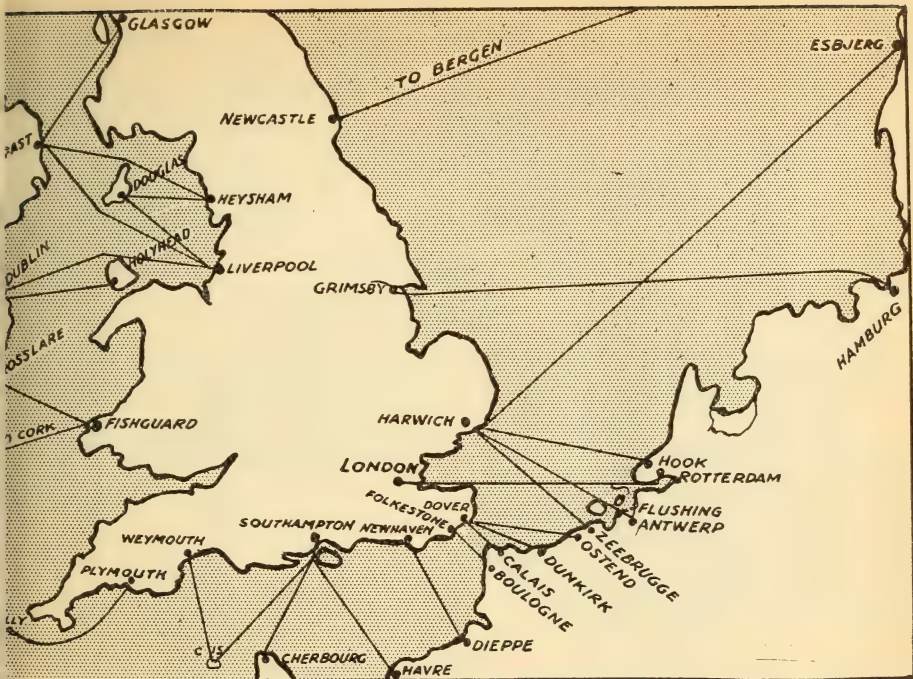
Kinnaird Head to Duncansby Head . . .	65 miles
Duncansby Head to Dunnett Head . . .	12 „
Dunnett Head to Cape Wrath . . .	50 „
Cape Wrath to Butt of Lewis . . .	40 „
Butt of Lewis to Barra Head . . .	120 „
Barra Head to Skerryvore . . .	35 „
Skerryvore to Rhyns of Islay . . .	44 „
Rhyns of Islay to Mull of Cantyre . . .	33 „
Mull of Cantyre to Sanda . . .	8 „
Sanda to Pladda . . .	18 „
Pladda to Cumbræ . . .	18 „
Cumbræ to Toward . . .	9 „
Toward to Cloch . . .	5 „
Pladda to Ailsa Craig . . .	10 „
Ailsa Craig to Corsewall . . .	15 „
Corsewall to Mull of Galloway . . .	30 „
Mull of Galloway to Ayre Point . . .	21 „
Ayre Point to Liverpool Bar . . .	67 „
Liverpool to Skerries . . .	40 „
Skerries to South Stack . . .	8 „
South Stack to Smalls . . .	100 „
Smalls to Longships . . .	100 „
Longships to Lizard . . .	24 „

## Ships and the Sea

### Cross Channel and Short Voyages.

Dover to Calais	.	.	.	22 miles
„ to Dunkirk	.	.	.	40 „
„ to Ostend	.	.	.	63 „
Fishguard to Cork	.	.	.	140 „
„ to Rosslare	.	.	.	55 „
Fleetwood to Douglas	.	.	.	56 „
Folkestone to Boulogne	.	.	.	26 „
Glasgow to Belfast	.	.	.	112 „
Gravesend to Rotterdam	.	.	.	160 „
Grimsby to Hamburg	.	.	.	370 „
Harwich to Antwerp	.	.	.	140 „
„ to Esbjerg	.	.	.	340 „
„ to Flushing	.	.	.	95 „
„ to Hook	.	.	.	110 „
„ to Zeebrugge	.	.	.	90 „
Heysham to Belfast	.	.	.	120 „
„ to Douglas	.	.	.	60 „
Holyhead to Kingstown	.	.	.	56 „
Liverpool to Belfast	.	.	.	135 „
„ to Douglas	.	.	.	70 „
Liverpool to Dublin	.	.	.	120 „
Newcastle to Bergen	.	.	.	400 „
Newhaven to Dieppe	.	.	.	67 „
Southampton to Caen	.	.	.	120 „

# Cross-Channel Connections



## Ships and the Sea

### CROSS CHANNEL to

Southampton to Cherbourg	.	85	miles
„ to Guernsey	.	100	„
„ to Havre	.	105	„
„ to St. Malo	.	150	„
Stranraer to Larne	.	35	„
Weymouth to Guernsey	.	70	„

### Irish Coast.

Inistrahull to Tory Island	.	.	.	.	47	miles
Tory Island to Aran Island	.	.	.	.	20	„
Aran Island to Slyne Head	.	.	.	.	126	„
Slyne Head to Loop Head	.	.	.	.	50	„
Loop Head to Tearaght	.	.	.	.	40	„
Tearaght to Skellig	.	.	.	.	18	„
Skellig to Fastnet	.	.	.	.	44	„
Fastnet to Kinsale Head	.	.	.	.	40	„
Kinsale Head to Ballycotton	.	.	.	.	7	„
Ballycotton to Hook Point	.	.	.	.	44	„
Hook Point to Tuskar	.	.	.	.	30	„
Tuskar to South Stack	.	.	.	.	88	„





## Ships and the Sea

### London—Overseas Ports.

All distances are approximate and do not go into odd figures; routes and distances vary according to season and to the track taken.

#### LONDON to

Adelaide . . . . .	10,900 miles
Aden . . . . .	4,700 „
Amsterdam . . . . .	200 „
Alexandria . . . . .	3,100 „
Antwerp . . . . .	180 „
Ascension . . . . .	3,900 „
Athens (Piraeus) . . . . .	2,800 „
Auckland (via Suez) . . . . .	12,600 „
Auckland (via Panama) . . . . .	11,300 „
Azores . . . . .	1,500 „
Bahia . . . . .	4,500 „
Bombay . . . . .	6,400 „
Bordeaux . . . . .	1,100 „
Boston . . . . .	3,000 „
Brisbane . . . . .	12,000 „
Buenos Aires . . . . .	6,300 „
Calcutta . . . . .	8,300 „
Cape Finisterre . . . . .	800 „
Cape St. Vincent . . . . .	1,150 „
Cape Town . . . . .	6,100 „

# Distance Tables

LONDON to

Colombo . . . .	6,800 miles
Constantinople . . . .	3,200 „
Copenhagen . . . .	800 „
Danzig . . . .	1,100 „
Durban . . . .	6,900 „
Finisterre . . . .	800 „
Freetown . . . .	3,000 „
Fremantle . . . .	9,800 „
Gibraltar . . . .	1,300 „
Halifax, N.S. . . . .	2,700 „
Hamburg . . . .	400 „
Havre . . . .	200 „
Hobart . . . .	12,000 „
Hong Kong . . . .	9,900 „
Honolulu (via Suez) . . . .	14,000 „
Jamaica . . . .	4,200 „
Karachi . . . .	6,100 „
Lagos . . . .	4,100 „
Las Palmas . . . .	1,700 „
Lisbon . . . .	1,100 „
Magellan . . . .	7,400 „
Madeira . . . .	1,500 „
Malta . . . .	2,300 „
Marseilles . . . .	2,100 „
Melbourne . . . .	11,400 „
Messina . . . .	2,400 „

# Ships and the Sea

LONDON to

Mombassa	.	.	.	.	6,600	miles
Montevideo	.	.	.	.	6,400	„
Naples	.	.	.	.	2,300	„
New York	.	.	.	.	3,500	„
Oslo	.	.	.	.	700	„
Panama	.	.	.	.	4,800	„
Pernambuco	.	.	.	.	4,100	„
Piraeus	.	.	.	.	2,800	„
Port Said	.	.	.	.	3,200	„
Quebec	.	.	.	.	3,100	„
Rangoon	.	.	.	.	7,900	„
Rio de Janeiro	.	.	.	.	5,200	„
Rotterdam	.	.	.	.	180	„
St. Helena	.	.	.	.	4,600	„
St. Vincent	.	.	.	.	1,150	„
San Francisco (via Suez)	.	.	.	.	13,600	„
San Francisco (via Panama)	.	.	.	.	7,950	„
Shanghai	.	.	.	.	10,700	„
Singapore	.	.	.	.	8,300	„
Southampton	.	.	.	.	200	„
Stockholm	.	.	.	.	1,200	„
Sydney	.	.	.	.	12,000	„
Ushant	.	.	.	.	400	„
Valparaiso (via Panama)	.	.	.	.	8,900	„
Vladivostock	.	.	.	.	11,400	„
Wellington (via Suez)	.	.	.	.	12,600	„

## Distance Tables

### LONDON to

Wellington (via Panama) . . . .	11,300 miles
Yokohama . . . .	11,900 „

### CAPE TOWN to

Buenos Aires . . . .	3,800 miles
Fremantle . . . .	4,700 „
New York . . . .	6,800 „
Rio de Janeiro . . . .	3,300 „

### FREMANTLE to

Adelaide . . . .	1,300 miles
Brisbane . . . .	3,000 „
Colombo . . . .	3,100 „
Melbourne . . . .	1,900 „
Sydney . . . .	2,400 „

### HONG KONG to

Vancouver . . . .	6,000 miles
-------------------	-------------

### LIVERPOOL to

Buenos Aires . . . .	6,400 miles
Georgetown . . . .	4,000 „
Jamaica . . . .	4,100 „
Magellan . . . .	7,200 „
Montreal . . . .	2,800 „
New York . . . .	3,100 „
Panama . . . .	4,700 „
Port Churchill . . . .	3,000 „

## Ships and the Sea

### LIVERPOOL to

Rio de Janeiro	.	.	.	5,200 miles
Sydney (via Panama)	.	.	.	12,600 „
Wellington (via Panama)	.	.	.	11,200 „

### SYDNEY to

Panama	.	.	.	7,900 miles
San Francisco	.	.	.	6,600 „
Vancouver	.	.	.	6,900 „

### WELLINGTON to

Panama	.	.	.	6,500 miles
Valparaiso	.	.	.	5,000 „

### YOKOHAMA to

London	.	.	.	11,900 miles
San Francisco	.	.	.	4,500 „
Valparaiso	.	.	.	9,300 „
Vancouver	.	.	.	4,200 „

## CHAPTER IV

# Bunkering and Fuelling Stations of the World (Commercial)

THOSE places in dark type are either British possessions or are under British protection and some idea is indicated of the immensity of the defence problem with which the Royal Navy and Royal Air Force have to contend.

### Stations at which Coal Only is Available.

**Albany**

**Barbados**

BEIRA

BONA

**Bowen**

BREST

**Bunbury**

**Cairns**

**Cardiff**

CHINGWANGTAO

**Comox**

CORCUBION

CORONEL

**Dartmouth**

DIEGO SUAREZ

DIEPPE

**Dundee**

**Durban**

**East London**

EMDEN

**Freetown**

## Ships and the Sea

### Stations at which Coal Only is Available—*contd.*

GDYNIA	<b>Middlesbrough</b>
GHENT	MIKE
HAKODATE	MOJI
<b>Hartlepool</b>	<b>Mormugoa</b>
HOOK OF HOLLAND	MURORAN
HUELVA	<b>Nanaimo</b>
<b>Immingham</b>	<b>Newcastle on Tyne</b>
<b>Ipswich</b>	<b>Newport</b>
KARATSU	NEWPORT NEWS
KEELUNG	NICOLAIEFF
<b>Lagos</b>	ODESSA
LA PLATA	OPORTO
LAURUM	OTARU
LOANDA	PADANG
LOBITO	PAPEETE
LOURENCO MARQUES	<b>Plymouth</b>
LOTA	<b>Port Harcourt</b>
<b>Lyttleton</b>	<b>Port Kembla</b>
MADEIRA	<b>Port Pirie</b>
MARIUPOL	PUNTA ARENAS
<b>Mauritius</b>	ROSARIO
MESSINA	<b>St. Johns (N.F.L.)</b>
<b>Methill</b>	<b>St. Lucia</b>



## Bunkering and Fuelling Stations of the World (Commercial)

### Stations at which Coal Only is Available—*contd.*

ST. MICHAELS  
SAVONA  
SFAX  
**Sydney (N.S.W.)**  
SYRA  
  
TJILATJAP  
**Townsville**

TSINGTAO  
VLADIVOSTOCK  
**Walvis Bay**  
YAWATA  
**Zanzibar**  
ZEA

### Stations at which Oil Only is Available.

AALBORG  
ABADAN  
AIMERIA  
ANGO-ANGO  
ARUBA  
  
BATIK PAPAN  
BATON ROUGE  
BATOUM  
BAYTOWN  
BEIRUT  
BEAUMONT  
BUMPYO  
  
CANTON  
CEBU

COCHIN  
CUXHAVEN  
  
**Dunedin**  
  
ILO ILO  
  
KETCHIKAN  
KEY WEST  
**Kyle of Lochalsh**  
  
MACASSAR  
MIRI  
  
PALEMBANG  
PORT TEXAS

## **Ships and the Sea**

### **Stations at which Oil Only is Available—*contd.***

SALONICA  
SAN PEDRO

TALARA  
TALTAL  
TAMPA  
TAMPICO

**Tarakan**  
TUAPSE  
TUXPAN  
  
VEDO  
VERA CRUZ

### **Stations at which Coal or Oil is Available.**

AALSUND  
**Aberdeen**  
**Adelaide**  
**Aden**  
**Alexandria**  
ALGIERS  
AMSTERDAM  
ANTOFAGASTA  
ANTWERP  
**Auckland**  
AZORES

BALBOA  
BAHIA BLANCA  
BALTIMORE

BANGKOK  
BATAVIA  
**Belfast**  
BERGEN  
**Bermuda**  
BILBAO  
**Bombay**  
BORDEAUX  
BOSTON  
BOULOGNE  
BREMEN  
BREMERHAVEN  
**Brisbane**  
**Brixham**  
BUENOS AIRES

## Bunkering and Fuelling Stations of the World (Commercial)

Stations at which Coal or Oil is Available—*contd.*

CALAIS  
**Calcutta**  
CALLAO  
**Cape Town**  
CASABLANCA  
CEUTA  
CHARLESTON  
**Colombo**  
COLON  
CONSTANZA  
COPENHAGEN  
CORUNNA  
CURACAO  
DAIREN  
DAKAR  
DANZIG  
**Dover**  
**Dublin**  
DUNKIRK  
**Durban**  
**Falmouth**  
**Fremantle**  
GALVESTON  
GENOA

**Gibraltar**  
**Glasgow**  
GOTHENBURG  
**Grangemouth**  
GULF PORT  
**Haifa**  
**Halifax**  
HAMBURG  
HAVANA  
HAVRE  
**Hong Kong**  
HONOLULU  
HOUSTON  
**Hull**  
IQUQUE  
ISTANBUL  
JACKSONVILLE  
**Karachi**  
KIEL  
**Kingston**  
KOBE  
LAS PALMAS  
LEGHORN

## **Ships and the Sea**

### **Stations at which Coal or Oil is Available—*contd.***

<b>Leith</b>	ORAN
LISBON	OSAKA
<b>Liverpool</b>	OSLO
LOBITO	
<b>London</b>	PALEMBANG
	PALERMO
<b>Madras</b>	PARA
MALMO	<b>Penang</b>
<b>Malta</b>	PENSACOLA
<b>Manchester</b>	<b>Perim</b>
MANILA	PERNAMBUCO
MARSEILLES	PHILADELPHIA
<b>Melbourne</b>	PIRAEUS
MOBILE	PORT ARTHUR (Texas)
<b>Mombasa</b>	<b>Port Said</b>
MONTEVIDEO	<b>Port Sudan</b>
<b>Montreal</b>	PORTLAND (Maine)
	PROVIDENCE
NAGASAKI	
NAPLES	<b>Quebec</b>
<b>Newcastle</b>	
NEW ORLEANS	<b>Rangoon</b>
NEW YORK	REIKJAVIK
NORFOLK (Va.)	RIO DE JANEIRO
NORDENHAM	ROTTERDAM
NOVOROSSISK	ROUEN

## Bunkering and Fuelling Stations of the World (Commercial)

Stations at which Coal or Oil is Available—*contd.*

SABANG

SAIGON

**St. Johns (N.S.)**

ST. NAZAIRE

**St. Thomas**

ST. VINCENT

SAN FRANCISCO

SANTOS

SAVANNAH

SEATTLE

**Shanghai**

**Singapore**

SOURABAYA

**Southampton**

STAVANGER

STETTIN

STOCKHOLM

**Suez**

**Sunderland**

SUVA

**Swansea**

**Sydney**

TACOMA

TENERIFE

TRIESTE

**Trinidad**

TROMSO

TRONDHJEM

TUNIS

VALPARAISO

**Vancouver**

VENICE

**Wellington**

YOKOHAMA

## CHAPTER V

# Flags

FLAGS are used at sea either to denote the nationality of vessels, to denote their ownership, to indicate the rank of their commander or maybe of an important visitor or passenger, or as signal flags, hoisted separately or in groups.

Signal and code flags are dealt with under the chapter on Signals at Sea and so we will talk about the others here.

The study of flags is one of absorbing interest as most of them are the outcome of a combination or sequence of interesting historical and political events and changes. Heraldic lore also plays a prominent part in the design of all flags.

Flags or banners seem to have been in use at sea from the very earliest days and at the time of the Tudors the idea seemed to have been for ships to vie with each other in the splendour and number of their banners; what amazes seamen is this multiplicity of flags and it is almost impossible to understand where they could possibly have been stowed in such small vessels already overcrowded to an unbelievable extent, and it is difficult to understand how they were kept clear of rigging and sails.

Passing from very early times when strips of coloured cloth were used to make a brave display of colour, it is easy to see that, a little later on, perhaps the commander or owner of a vessel conceived the idea of hoisting his own personal emblem in addition. As men formed themselves into communities for protection and as they

## Flags

began to venture further from home it became necessary to take this identification one step beyond and so the head of a particular community or nation gave orders that his standard of sovereignty should be worn by all ships owing allegiance to him in addition to the other personal flags.

This is like the modern House flag of shipping companies to represent the owner and the Ensign to indicate the country or community to which they belong.

The OLDEST ENSIGN in use to-day is probably the Turkish, which dates back to 339 B.C., in which year Byzantium was being besieged by the Christian Emperor, Philip of Macedon and tradition relates that a night attack on the city was frustrated by the sudden appearance in the Heavens of a bright light which revealed the attackers; in gratitude the Byzantines adopted the device of a crescent and star.

Although of much more recent origin, the square Danish ensign dates back unchanged to the thirteenth century.

English ships wore the cross of St. George long, long ago but not always consistently and sometimes it was combined with other devices such as during the Tudors, when the green and white horizontal stripes of this House often appeared in the flag as well.

In 1606, some years that is after the accession to the English throne of James, a flag made up of the English cross of St. George and the Scottish saltire of St. Andrew, became the national emblem, but English vessels continued to use their own flag as well as did the Scottish, wearing the combined flag at the mainmast head.

In 1634 the combined flag was authorised to be used by the ships of the navy only and in 1674 its use by merchant ships was made a punishable offence.

It was not actually until 1707, when the political union between England and Scotland took place, that any very definite instructions appear to have been promulgated however.

During the period of the Commonwealth this Union flag was not used but in



## Ships and the Sea

### ALPHABETICAL LIST OF COUNTRIES WHOSE MERCHANT FLAGS ARE REPRESENTED ON FACING PAGE.

	NO. OF ILLUS.		NO. OF ILLUS.
America, United States of . . . . .	21	Holland (Netherlands) (Royal (Neth-	
Argentina . . . . .	20	erlands) Naval Reserve) . . . . .	18
Australia, Commonwealth of . . . . .	3	Iceland . . . . .	28
Belgium . . . . .	24	India . . . . .	5
Brazil . . . . .	10	Irish Free State . . . . .	26
Canada, Dominion of . . . . .	6	Italy . . . . .	27
Chili . . . . .	11	Japan . . . . .	13
China . . . . .	7	Netherlands . . . . .	17
Denmark . . . . .	30	„ (Royal (Netherlands)	
Finland . . . . .	32	Naval Reserve) . . . . .	18
France . . . . .	25	New Zealand, Dominion of . . . . .	4
Germany . . . . .	8	Norway . . . . .	31
Great Britain . . . . .	2	Poland . . . . .	12
„ „ (Royal Naval Reserve; worn by Merchant Ships com- manded by an officer of R.N.R. and having a specified number of R.N.R. ratings) . . . . .	1	Portugal . . . . .	9
Greece . . . . .	22	Spain . . . . .	19
Holland (Netherlands) . . . . .	17	Sweden . . . . .	29
		United States of America . . . . .	21
		Uruguay . . . . .	23
		Yugoslavia . . . . .	16

xplana  
outline.



# MERCHANT FLAGS



1. Great Britain  
(Blue Ensign of Royal Naval Reserve.)



2. Great Britain  
(Red Ensign of Merchant Navy.)



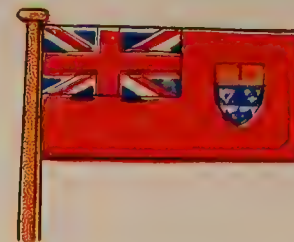
3. Commonwealth of Australia



4. Dominion of New Zealand



5. India



6. Dominion of Canada



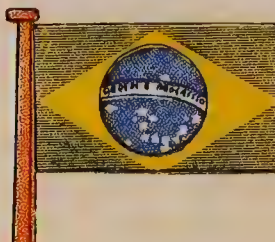
7. China



8. Germany



9. Portugal



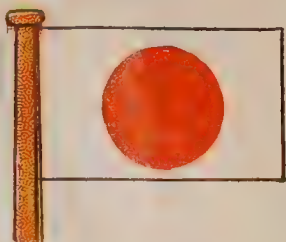
10. Brazil



11. Chile



12. Poland



13. Japan



16. Yugo-Slavia



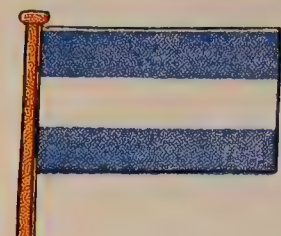
17. Netherlands  
(Holland.)



18. Netherlands  
(Royal (Netherlands) Naval Reserve.)



19. Spain



20. Argentine



21. United States of America



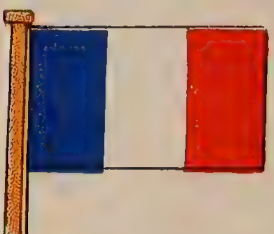
22. Greece



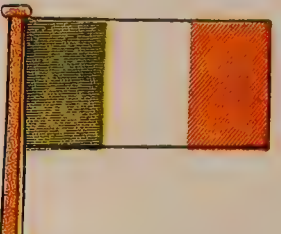
23. Uruguay



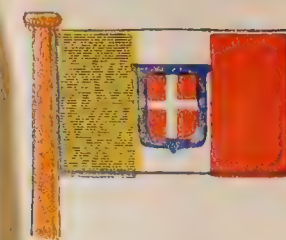
24. Belgium



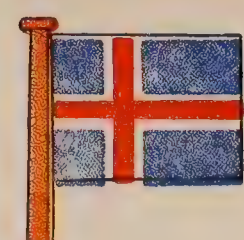
25. France



26. Irish Free State



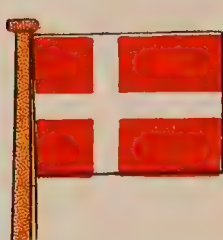
27. Italy



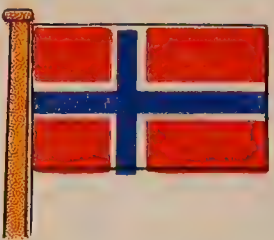
28. Iceland



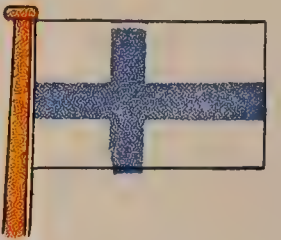
29. Sweden



30. Denmark



31. Norway



32. Finland





## Flags

its place was worn the plain flag of St. George once more, until after Cromwell's conquest of Ireland, when the Irish yellow harp on blue ground was added to the flag.

In 1801 after the Union with Ireland, the red cross of St. Patrick was added to the Union flag of 1707 and it has remained thus to the present day.

The *Union Flag* is often referred to incorrectly as the *Union Jack*; the word "jack" is a maritime diminutive and it crops up in such terms as "jack-stay," "jack-yard" and so on; in the same way a "Jack" is a small flag worn at the bows of ships at a "jack-staff"—the Union Jack being a small Union flag worn as a jack.

How the word came to acquire its meaning is obscure but it is a fairly commonly accepted belief that it was a nickname given to the *small* Union flag originated by James (Jacques or Jack) and hence it gradually became adopted to express anything small.

Be that as it may the Union flag to-day is not an Ensign in the usual sense of the term and strictly should not be hoisted by individuals but should be reserved exclusively for the Royal Navy for use as a Jack, for Admirals of the Fleet as their personal flag, and for Government buildings and for any official representative of the country.

The *Merchant Jack* is a small Union flag with a white border and may be worn at the jack-staff of British merchant vessels; its wear should be encouraged as it is a privilege not shared by many countries. Although its use is sometimes questioned, whatever the legal position may be it is a custom so old that it will hold its own. The same flag hoisted at the foremast is a sign that the vessel exhibiting it requires a pilot; it is known as the *Pilot Jack* and was authorized in 1823.

The reason for there being three BRITISH ENSIGNS is interesting but as a lengthy explanation is impossible here we must just content ourselves with the following outline.

## **Ships and the Sea**

At the time of the Restoration, the Ensign consisted of a red flag with St. George's flag in the top corner next to the staff; in 1707 when the Union with Scotland came about as above mentioned, this St. George's flag was replaced by the Union flag.

Later on when the fleet was divided into three squadrons, the senior division took the red ensign, the next senior (the Van division), took a blue ensign of same design and the junior (Rear division), a white; to this latter was later on added a large cross of St. George, over all, in order to distinguish it from the French Ensign of that period, which was white.

This cumbersome method proved rather confusing, especially in action and several commanders fought actions under one colour only and Nelson fought Trafalgar under the White Ensign, he at that time being a Vice-Admiral of the White Squadron. This practice spread and by 1846 practically the whole of the fleet used the white until in 1864 it was officially laid down that henceforth the White Ensign was to be the only Ensign worn by ships of the Royal Navy.

Consequent upon this change, the Red Ensign, as being the senior colour, was adopted as the national Ensign of Great Britain and therefore taken as the merchant flag, and the Blue Ensign was given to the Royal Naval Reserve.

So much for historical details.

To-day flags are generally either rectangular (square or oblong), pennants (usually spelt pendants in the Royal Navy but pronounced in the same way) and burgees and the shapes of all these can be seen in the accompanying drawings.

There are variations of these shapes; for instance a pendant may be swallow-tailed or a burgee may have three tails instead of two.

Yacht club flags are termed burgees although they are shaped like pendants.

The edge of a flag nearest the staff is called the Hoist and that furthest away, or the outer edge, the FLY and a flag is usually spoken of as being divided into



## Flags

CANTONS or sections, the bottom canton at the fly sometimes being spoken of as the TACK.

Vessels are said to Wear ensigns not to Fly them, but it is not incorrect to speak of flying signal flags.

The size of British flags is referred to in terms of "BREADTHS," a breadth being 9 inches, although bunting is actually supplied in widths of 18 inches. All British ensigns, Royal Standards and the Union flag are twice as long as they are broad and so when one of them is spoken of as being of "16 breadths" it means that it is sixteen times 9 inches broad, that is 12 feet, and as it is twice as long as it is broad, it is a flag 24 feet long.

Some foreign ensigns are square and others are long and narrow; the etiquette is worth studying.

The custom of half-masting an ensign appears to have been in regular use in the British fleet as far back as the seventeenth century, but it has only recently been universally adopted. Half-masting actually means that the top of the flag is one-third below the truck. Colours are half-masted as a mark of respect during funerals of prominent persons, or by vessels carrying the body of such a person.

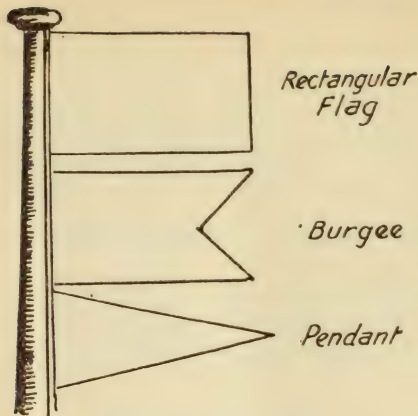
House flags of companies are also half-masted together with the ensign.

Colours are always run up to the truck before half-masting and are similarly raised before lowering in the evening.

Ensigns are dipped in salute by passing vessels; nowadays this is a courteous custom, being a survival of the times when nations claimed sovereignty over portions of the oceans and demanded the lowering of flags, striking of topmasts or backing of topsails as an acknowledgment of their claims.

British warships never dip to foreign warships first, and no warship of any nationality dips to a merchantman except to acknowledge the latter's salute.

## Ships and the Sea



British warships and mail vessels only dip their ensigns in greeting once, but there is no limit to the number of times for other vessels.

When colours are half-masted they are always mast-headed before and after dipping.

On special occasions, such as Royal birthdays, Accession, Coronation or Dominion days, ships are "Dressed."

This may take the form of "DRESSING OVERALL" or "DRESSING UP AND DOWN," the principal difference being that in "Overall" the line of flags starts from the jack-staff in the bows and goes to the fore-truck, then aft to the main truck and finally down to the taffrail, whilst in "Up and Down" the flags are taken from the trucks of the masts straight

down to deck level. Care must be taken to see that the flags, which are usually those of the International Code of Signals detailed in the section called "SIGNALS," do not spell out a message.

The flags worn by British merchant ships to-day are the following:—

RED ENSIGN.—Affectionately known as the "Red Duster." Originally granted in 1674 but not enforced in its present form until 1864; this being the National Ensign, it may be hoisted by any British subject.

## Flags

It is worn at the ensign staff in the stern or at the peak when at sea by vessels having a gaff, but was formerly hoisted at the yard-arm.

It is hoisted in home waters at 8 a.m. from March 24th to September 20th inclusive, and at 9 a.m. from September 21st to March 24th inclusive, and is kept flying until sunset, except in most docks in this country, however, when it is struck at 5 p.m.

Colours are always displayed, irrespective of time of day, provided that there is sufficient light for them to be seen, whenever a ship is getting under way or is coming to her anchorage.

**BLUE ENSIGN.**—The flag of the Royal Naval Reserve, and may be worn in the same way as the above in any ship commanded by an officer of the Royal Naval Reserve or by a retired officer of the Royal Navy, provided that, in addition, at least ten other officers and ratings of the ship are also members of the Reserve.

Penalty for improper use renders the master liable to heavy fines, and the flag is confiscated: the officer to whom the certificate has been granted must be in the ship at the time.

Other vessels whilst on Admiralty service may wear the Blue Ensign, as may certain Royal Yacht Clubs.

**MERCHANT JACK.**—A small Union flag within a white border; may be flown from the jack-staff in the bows.

**HOUSE FLAG.**—The House flag is the private distinguishing emblem of a shipping firm in the same way that a crest is the sign of an individual, and it may be of any shape or may consist of one flag above another. It is worn by a merchant vessel only when in port, or when entering or leaving port, at the mainmast head, except that of T. & Jno. Brocklebank, which is at the foremast.

Sometimes a House flag is worn at both mast-heads and this usually indicates that a merger has taken place; for instance, vessels of the Houston and Scottish Shire Lines wear their own House flag at the mainmast with the addition of the

## Ships and the Sea

Clan Line flag at the foremast, as both these companies are owned by the latter firm.

A great deal of history attaches to some of these flags and many of them are combinations of two or more concerns, such as the Union and Castle Lines.

The Shaw Savill flag is the same as the former national flag of New Zealand, and this perpetuates the early connections between the Dominion and the Mother Country maintained by this line.

The flag of the Peninsular and Oriental contains the colours of Spain and Portugal, the two countries with which the vessels of this line originally traded; similarly, that of MacAndrews shows the Spanish colours at top and bottom.

Sometimes a miniature House flag is worn at the jack-staff in the bows.

**NATIONAL FLAG.**—The ensign of the country to which a merchant vessel is proceeding is usually hoisted at the foremast.

**ROYAL MAIL FLAG.**—A white pendant with a Royal Crown above a post horn and the lettering ROYAL MAIL, all in red, is hoisted at the port yard-arm by all British vessels authorised to carry His Majesty's mails.

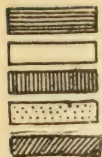
**PILOT FLAG.**—Horizontally divided, top half white, bottom half red; hoisted where best seen, but usually in the neighbourhood of the bridge, and indicates that the vessel is in charge of a qualified pilot. Sometimes hoisted beneath the ensign, especially in river or pleasure craft, and this indicates that the captain is qualified to pilot his own vessel.

These are the principal flags to be seen in British merchant vessels, but others will be found under the chapter on "SIGNALS."

**NAVAL FLAGS.**—British warships may wear any of the following flags:—

*Royal Standard.*—The personal standard of the reigning sovereign, and may only be hoisted in a ship when the sovereign is actually present, and it is kept flying day

# SOME FLAGS WORN BY BRITISH MERCHANT SHIPS



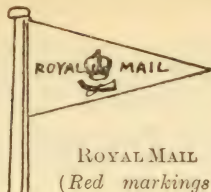
Blue

White

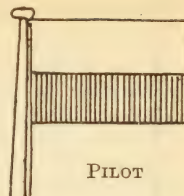
Red

Yellow

Green



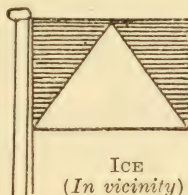
ROYAL MAIL  
(Red markings)



PILOT



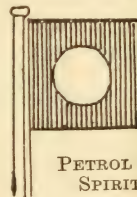
MERCHANT<sup>1</sup> AND  
PILOT JACK



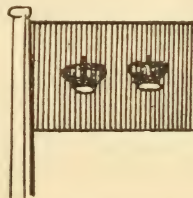
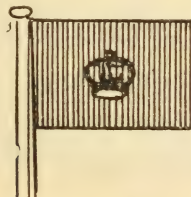
ICE  
(In vicinity)



REFINED  
OIL



PETROL OR  
SPIRIT



POWDER FLAGS in use on the Thames (*Gold Crowns*).

## Ships and the Sea

and night; in 1345 it was apparently worn by the "LORD ADMIRAL" also. It is hoisted at the mainmast head.

*White Ensign.*—Worn as an ensign in the same manner and at the same times as the Red Ensign by merchant ships, except that abroad the time may be varied as directed by the Commander-in-Chief, and that it may be worn at sea whilst there is sufficient light for it to be seen.

It is also used by the Royal Naval Volunteer Reserve and by the Royal Yacht Squadron; until 1847 certain other yacht clubs used it, defaced by a badge, but this was disallowed in that year.

Also worn at mastheads on occasions when ships are "dressed" and if not flying a Flag Officer's flag.

*Union Flag.*—Worn at the main by an Admiral of the Fleet.

*Union Jack.*—Worn at the jack-staff in the bows but only when in harbour, and not in dry dock nor when the ship is overhauling.

Until about 1700 the Union Jack was worn at the bows when at sea but the introduction of fore and aft head sails, at about this period, rendered it impracticable on account of fouling. Dominion vessels wear their own distinctive emblems in place of the Jack.

*Admiralty Flag.*—A yellow foul anchor on a red field worn by a ship carrying the Lord High Admiral or the Lords Commissioners of the Admiralty.

Australian Naval Board have a similar flag but the field is horizontally divided, blue and red.

*Admirals' Flags.*—The mainmast is the point of honour in a ship, the foremast coming next and the mizzen third.

When the fleet was divided into three squadrons, called Red, Blue and White, in this order, there were, therefore, nine distinct ranks of admirals, namely, Admiral, Vice-Admiral and Rear-Admiral of the Red, Blue and White.



## Flags

Thus in the Red Squadron the Admiral flew a red flag at the main, the Vice-Admiral the same flag at the fore, and the Rear-Admiral the same flag again at the mizzen.

In 1625 the Union flag appears to have been worn at respective masts.

In 1653 the order of seniority was changed from RED, BLUE and WHITE to RED, WHITE and BLUE, although the reason appears to be rather obscure.

In 1702 the White Ensign was surcharged with the red Cross of St. George, doubtless to avoid confusion with the white flag of France as described earlier.

In 1898 the present forms were adopted, which are:—

*Admiral of Fleet.*—Union flag at mainmast.

*Admiral.*—St. George's flag at mainmast.

*Vice-Admiral.*—Same with one red ball in upper canton at hoist; worn at foremast if vessel has two masts. Ball was originally at bottom.

*Rear-Admiral.*—Same flag with additional red ball in bottom canton next the hoist; worn at foremast if two-masted vessel, or mizzen if a three-masted vessel. Both balls were originally at bottom.

*Commodore of the 1st Class.*—Wears a broad white pendant with Cross of St. George thereon.

*Commodore of the 2nd Class.*—Wears same as above with addition of one red ball in the upper canton at the hoist.

*Commodore's Flag.*—The Commodore in the Merchant Navy is the senior officer in the company's service, and many lines grant their Commodore the privilege of a personal flag, and this usually consists of the company's House flag in the shape of a burgee, or in the case of it being already so shaped, as in the British India Line, by the addition of a red ball in one of the cantons.



*Senior Officer's Pendant.*—When two or more of H.M. ships are together in a port or roadstead, a small pendant similar to Commodore's pendant is worn at the star-board yard-arm by the senior officer's ship.

*Church Pendant.*—Flown in ships during Divine Service; a very old flag although not always having been used to convey this meaning.

*Guard Pendant.*—Flown by the vessel which provides the guards and picquets for the day.

*Boats of the Fleet* wear ensigns when ships are dressed for ceremonial occasions; in all foreign ports between dawn and dusk; when visiting foreign men-of-war, day or night, and the Union flag is worn at the bows if an Admiral of the Fleet or official representative of the country is on board.

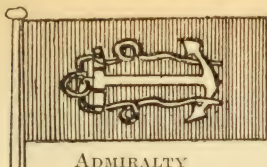
*Court Martial Jack.*—The Union flag is worn at the peak of the ship in which the Court is sitting.

*Royal Yachts.*—The etiquette for flags in Royal Yachts is a study in itself, and it depends upon whether His Majesty is on board, whether the vessel is under way and so on. When the King is on board and in his official capacity, the Union flag is worn at the jack-staff, the only occasion for a ship under way, the Admiralty flag is at the foremast, the Royal Standard at the main, the Union flag as Admiral of the Fleet at the mizzen (displaced from the main by the Royal Standard—the principal flag of all), and the White Ensign at the ensign staff aft.

All of His Majesty's ships when in full commission and when not wearing a Flag Officer's flag, wear a very long pendant at the mainmast head.

*Red Ensign.*—A warship with the Red Ensign at the foremast indicates that she wishes to communicate with a British merchant ship.

Enough has been said to show that the study of flags is, or can be, intensely interesting; there is really no excuse for hoisting the Union flag upside down, as is some-



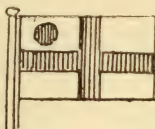
ADMIRALTY



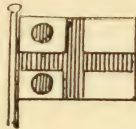
NAVAL BOARD (Australia)



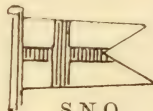
Admiral



Vice-Admiral



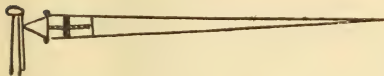
Rear-Admiral



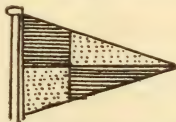
S.N.O.



(Senior Naval Officer) Commodore



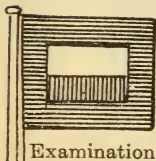
Commissioning Pendant



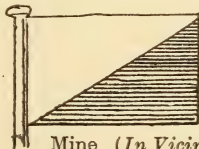
Fishery Protection



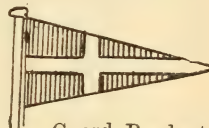
Church Pendant



Examination Ship



Mine (In Vicinity)



Guard Pendant

## Ships and the Sea

times done, and the penalties for wearing a flag to which the individual is not entitled should be more rigidly enforced, as it is at the least a breach of good manners.

It is permissible by International Law for a vessel to wear false colours for the purpose of deceiving an enemy vessel or for purposes of avoiding capture, but her real colours must be hoisted before any hostile action is attempted by her or before she opens fire.

The national colours hoisted upside down is an entirely unofficial signal of distress.

Although ships are provided with very full lockers, containing most flags that might be wanted, there sometimes come occasions when difficulties are encountered, such as when some obscure oriental potentate may appear or when a revolution takes place and the national flag is altered. One such occasion took place during the war, when a British warship in the Dover Patrol was suddenly ordered to take a distinguished gathering to witness the bombardment of the Belgian coast by the guns of our monitors.

Among the glittering gathering was an American Admiral and an American Admiral's flag was one of those not supplied to the ship; however, a piece of blue bunting was obtained and white stars were *sewn* on and all were happy.

Everything went well until the concussion from the heavy gunfire caused one of the stars to fall out of the flag and to tumble on to the deck: fortunately this was not observed by the principal person concerned and so whilst the dignitaries were at lunch, the flag was quietly hauled down, the star fixed on once again and all was well.

## CHAPTER VI

# Signals and Communications at Sea

IT is one thing to have a communication of any kind to send to another person but quite another matter to transmit that message safely and intelligibly; this fact is driven home very much to spies or intelligence workers who may have vital information in their possession but who are quite unable to pass that information on to the right quarters.

The same difficulty has had to be overcome at sea, when messages have to be transmitted from ship to ship or from shore to ship.

In very early times Commanders of fleets or squadrons often used to decide upon a few simple signals which it might be necessary to send to the vessels under their command, before joining battle. With the general perversity of things in this imperfect world, however, it usually transpired that at a critical juncture of the fight, when a signal that would be understood by all vessels might have been sent out from the flagship and perhaps would have altered the whole course of the engagement, it was realised that no such signal existed. On several occasions when some such effort was made by utilizing what signals did exist, worse confusion ensued, as much depended upon the capacity of the officers receiving the message to engage in a game of mental gymnastics; perhaps one or more might have grasped a vague outline of their Commander's intentions whilst others did not, and so chaos resulted.

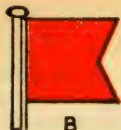
No doubt this accounted for so many unsuccessful engagements in the olden days, when the enemy ships were allowed to gather sail and draw off because no signal was

## International Code of Signals.

- A. I am undergoing speed trials.
- B. I am taking in (or discharging) explosives.
- C. Yes. (Affirmative.)
- D. Keep clear of me—I am manœuvring with difficulty.
- E. I am altering course to starboard.
- F. I am disabled—communicate with me.
- G. I require a pilot.
- H. I have a pilot on board.
- I. I am altering course to port.
- J. I am going to send a message by semaphore.
- K. You should stop your vessel immediately.
- L. You should stop—I have something important to communicate.
- M. I have a doctor on board.
- N. No. (Negative.)
- O. Man overboard.
- P. *In Harbour* (Blue Peter): Vessel to proceed to sea shortly.  
*At Sea*: Your lights are out (or burning badly).
- Q. My vessel is healthy.
- R. The way is off my ship; you may feel your way past me.
- S. My engines are going full speed astern.
- T. Do not pass ahead of me.
- U. You are standing into danger.
- V. I require assistance.
- W. I require medical assistance.
- X. Stop carrying out your intentions and watch for my signals.
- Y. I am carrying mails.
- Z. To be used to address or call shore stations.



A



B



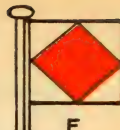
C



D



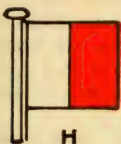
E



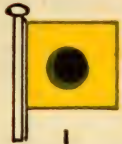
F



G



H



I



J



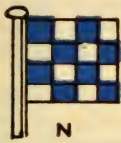
K



L



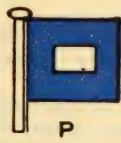
M



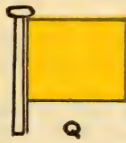
N



O



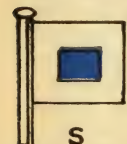
P



Q



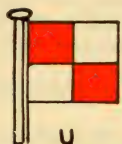
R



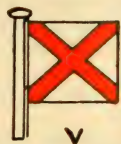
S



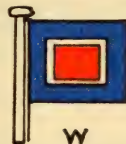
T



U



V



W



X



Y



Z







## Signals and Communications at Sea

made that would fit in with the changing phases of the combat. One of Nelson's greatest gifts was his quick intuitive grasp of changing conditions and his ability and courage to act without definite instructions from his superior officer; to heave out of line of battle as he did at Cape St. Vincent demanded a high degree of moral courage, because if, by such an action, misfortune occurred, an officer knew that he would be broken for acting without orders.

In later days, lack of information from one or more causes enabled the German fleet to escape from the trap of steel which Earl Jellicoe had placed between them and their bases.

So it began to dawn upon seamen that some form or another of visual signalling was essential both in peace and in war.

In 1817 Captain Marryat introduced his code, which came into widespread use and which continued to be used until 1879, in spite of an international code introduced in 1857.

This first International Code of Signals only consisted of eighteen flags and proved inadequate and so in 1901 an entirely new one came into force which had one flag for every letter of the *roman* alphabet, and so in the event of the code not functioning through the code book being lost or through some other catastrophe, words could be sent out in full with the sure knowledge that they would be received without misunderstanding.

This code remained in force until January 1st, 1934, when the present revised edition took effect.

In this, the five pendants, C, D, E, F and G were replaced by rectangular flags and they now represent the numerals 1, 2, 3, 4, and 5—five new pendants being added to form the numerals 6, 7, 8, 9, 0.

Most of the single letter and two-letter signals were altered and the three-letter and four-letter signals were revised and brought up to date.

## Ships and the Sea

The code is illustrated facing pages 124 and 126 and those single flags which, hoisted alone, have some special significance, are indicated.

### CODE LETTERS.

Every merchant vessel, above a certain tonnage, is allotted a group of four letters from the International Code, and this indicates her name for purposes of reporting her movements to shore signal stations and to passing ships; thus the Orient liner *Orama* is allotted the letters G, F, R, Q, and if you see a vessel with these flags hoisted in the neighbourhood of the bridge and you happen to have a code book in your possession, it is a simple matter to turn up these letters and satisfy your curiosity.

This method obviously saves much time compared with the laborious method of spelling out words, letter by letter, especially in the case of some foreign vessels who would be well out of sight before completing their lengthy names if the latter method was adopted.

When a ship hoists these flags she is said to be *making her number*, and gradually these are to be made to conform to the wireless call signs, if any.

When a ship wishes to make a signal, she hoists her ensign above the CODE FLAG, which is shown on the plate of code flags, and when this has been acknowledged by the receiving ship or station, she proceeds with her message.

A ship taking in a message hoists the ANSWERING PENNANT (actually the same flag as the Code Flag), to say that she is ready to receive, and again hoists it upon reading the signal correctly.

Ships passing, usually make the following signals:—

NATIONAL FLAG or ENSIGN. (If not already wearing it.)

Signal letters. (Name.)

Port from which sailed.



*CODE FLAG & ANSWERING PENDANT.*

NUMERALS.



1



2



3



4



5



6



7



8



9



0

SUBSTITUTES



*FIRST*

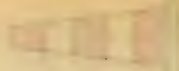


*SECOND*



*THIRD*

[Face page 126]



SCOTT'S SYSTEM OF SIGNALS



## Signals and Communications at Sea

Destination.

Number of days out. (Especially in case of sailing ships.)

Longitude.

Signals are always hoisted where best seen in prevailing weather conditions.

Most flags are "broken" after hoisting—that is to say they are "bent" on the halyard, run up to the truck in the form of a ball and by a pull of the halyard are then broken free; the ensign is never hoisted in this manner.

As has been mentioned, the single flags constituting a signal over and above their alphabetical signification are noted on the sheet accompanying this article, but mention must be made of the best known of all, to shore-going folk, and that is the letter "P," or "BLUE PETER" as it is called.

This, hoisted at the foremast on sailing day, is a reminder to all concerned to repair on board and it is kept flying until the ship is under way when it is replaced by the national ensign of the country to which she is bound.

Sometimes it is worn at the signal yard-arm.

In addition to the twenty-six flags forming the alphabet, are flags called *first*, *second* and *third substitutes*, and their purpose is to enable the same letter to be used more than once in the same hoist; for instance, if one wanted to spell out the word "ETHEL," the second "E" would be made by using the first substitute.

The principal two-letter hoists are:—

N.C. Distress or send immediate assistance.

P.T. I require a pilot.

Q.L. My vessel is infected.

Q.Q. My ship is suspect (of infection).

The above gives a brief idea of the value of this International Code and probably covers most of the single flags or hoists most generally in use.

## **Ships and the Sea**

Over and above the code flags, certain flags are generally universally recognised as having a certain significance but these may be varied slightly in different localities; for example—a plain red flag indicates that the vessel wearing it is either taking in or discharging explosives or some explosive material such as petroleum, but in the Thames a white ball or a gold crown may be added.

A plain green flag indicates a wreck in the vicinity of the vessel exhibiting it.

A plain black flag, or a black flag emblazoned with a white skull or some such gruesome emblem, indicates piracy, although in the hey-day of this profitable occupation, such a flag hoisted by a pirate vessel usually indicated that quarter would be granted to the vanquished, whereas the more common form was the plain blood-red banner.

Other universal signals are given in illustrations.

Various local signals applying to harbours and ports cannot be dealt with here; these are principally to indicate the state of the tide and so on; at most ports, particularly where there is a regular cross-channel service, a signal is made for the benefit of the incoming ship, and this is usually hoisted beneath the House flag of the company to which the vessel belongs.

Quoting my own phrase used earlier on, "With the usual perversity," I have probably discussed every flag or hoist except the one that you will first meet with at sea.

### **NAVAL SIGNALS.**

The need for a standardised system of communication for warships was mentioned at the beginning of this chapter, and it is surprising to realise what a long time it took people to discover this fact.

Had a signal book been in use during the War of Independence, it is more than likely that Admiral Graves would have prevented the break-away of the American colonies, which was made possible by the support of the French navy.

# SOME DISTANT SIGNALS



*In Distress*



*Wheft*

*Drum*

*Ball*

*Cone*



*Not under  
command*



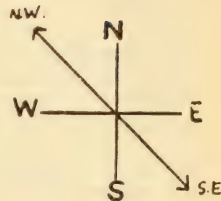
*Anchored*



*Pilot*



*NORTH CONE  
Gale from  
between S.E. &  
N.W. thro' N.*



*SOUTH CONE  
Gale from  
between S.E. &  
N.W. thro' S.*



## Ships and the Sea

In 1778 Lieutenant Sir Charles Knowles produced a signal book, but this was not in general use.

Kempenfelt and Howe devoted much attention to perfecting a naval code, and Sir Home Popham was responsible for that in use at Trafalgar; this was a fairly comprehensive tome and one of the few words of importance that was omitted appears to have been "Confide," because we are told that at Trafalgar, Lord Nelson originally wished to begin his memorable signal with "ENGLAND CONFIDES" but that he was unable to do so on account of there being no signal for this word.

The code in force to-day in the Royal Navy in peace-time is not a secret code in any way, but serves the same purpose as the International Code does for merchant vessels, except that it applies to British warships alone.

As in the mercantile code, there is a flag for each letter of the alphabet, substitutes and numerals and a large number of special flag signals, some of which are illustrated.

The oldest is probably the Church Pendant, which first appeared in about 1661, although it was then much longer and had the fly slit; it was then called the Union Pendant and later became the "Ordinary or Common" Pendant, going out of use as such with the three-coloured squadrons in 1864.

A warship wishing to communicate with a merchant ship hoists the Red Ensign at the masthead.

In recent years the Admiralty has given much encouragement to the excellent practice of signal exercises whenever practicable between British merchant vessels and warships and quarterly lists of successful exercises are published.

Before leaving flag signals it is well to place on record three signals, two of which will probably become as historic as that of Trafalgar.

Before going into action at the battle of the Tsushima Straits in May, 1905, Admiral Togo signalled, "The rise or fall of the Empire depends upon the result of this engagement; do your utmost, every one of you"; a slightly clumsy wording

## Signals and Communications at Sea

but a message calculated to rouse the same enthusiasm in the seamen of Japan as that of 1805 did in the British Fleet.

When approaching the Belgian coast on that memorable St. George's eve in 1917, the Commander-in-Chief signalled to the British blockading squadron, "ST. GEORGE for England," and the reply was: "And may he give the dragon's tail a damned good twist."

During a raid by British light forces on the German coast during the Great War, a German zeppelin airship was brought down by gunfire from the British fleet and the Officer Commanding, signalled "See hymn 224, verse 7," or words to that effect; if you are not familiar with your hymn book (Ancient and Modern), or do not take the trouble to look it up, you must go on guessing.

When the distance between two ships or between ship and shore is too great for the colours of flags to be picked out or when atmospheric conditions render it impracticable, signals are carried out by what are termed

### DISTANT SIGNALS.

These consist of shapes in the form of Balls (or squares), Drums and Cones or as an alternative, Balls, Whefts and Cones, a wheft being a pennant with its fly fixed down to the halyard.

There is one set of signs for each letter of the alphabet, but the chief combinations which are most likely to be met with are those illustrated on page 129, namely:—

*Distress.*—Ball above or below a drum, or alternatively,

Ball above or below a cone.

*"I want a pilot."*—Two balls above a cone.

Large cones are hoisted at shore stations to indicate expected gales

## **Ships and the Sea**

### **GALE WARNINGS.**

The NORTH CONE, that is to say a cone with its point upwards, is hoisted if the gale is expected from between South-East, through North to North-West.

The SOUTH CONE, that is to say a cone with its point downwards, is hoisted if the gale is expected from anywhere between South-East through South to North-West.

These warnings indicate the probability of a gale within an area of 50 miles and they are hoisted at daybreak and lowered at dusk for a period of forty-eight hours from receipt of the warning.

At night their place is taken by three lights in the form of a triangle, the point being up or down accordingly.

### **SEMAPHORE.**



























On the bridge of all warships, and of a very large number of merchant vessels, is a post with two arms like a railway signal, usually painted black with a vertical white stripe in the centre; this is a semaphore, by which means messages can be sent over very long distances with great rapidity, in fact the speed is usually so great that no one but a practised signaller can possibly hope to read them.

In place of the fixed semaphore, signals may be made by hand, the signaller taking the place of the fixed post, and flags, usually of two colours, being used to make the signs.

In case you may aspire to become a Yeoman of Signals, or some such exalted personage, the semaphore alphabet is illustrated.

Before the days of wireless or telegraphy, all messages from the Admiralty to ships in the dockyards were sent by this semaphore system by means of a chain of stations placed on prominent hilltops and the famous "Telegraph Inn," on Putney Common, takes its name from the days when this was one of the stations

# SEMAPHORE TELEGRAPH SIGNALLING

	A 1		B 2		C 3		D 4		E 5		F 6
	G 7		H 8		I 9		J		K (No) O		L
	M		N		O		P		Q		R
	S		T		U		V		W		X
	Y				Z						

## Ships and the Sea

between Whitehall and Portsmouth, "Semaphore Telegraph" being the full name of this apparatus.

### MORSE.

At night, when only lights can be seen, signalling is carried out by means of flashing lights, a series of dots and dashes representing each letter of the alphabet; this again takes some learning and the best method is to learn a few letters at a time, although some people prefer the system of learning in groups of opposites; for example, the letter "A" is represented by a dot and a dash, that is, a short flash and a longer one, whereas the letter "N" is the opposite, or a flash followed by a dash; I personally used this method, but I am told that it requires a curious mentality and often leads to confusion.

This Morse system may also be used in the day-time by means of electric flashing lamps, or by heliographic instruments if in sunny climes.

It is distinctly useful to learn because obviously a conversation may be carried out in this method by tapping and although there is nothing secret about it it remains a mystery to those who have not learnt it. There is a story that at some diplomatic or official reception of some kind at an outpost of Empire, the host, a charming man of somewhat eccentric habits, appeared at table without his dress tie; this was quickly spotted by a young guest, who rapped on the table for the benefit of his friend across the table, "Look at old so and so—he's forgotten his tie"; much to his discomfiture the distinguished host, who understood Morse, rapped out, "Look at young so and so, he's forgotten his manners."

There is no more fascinating sight than to be in a ship which is one of a large fleet lying at its anchorage in the evening, when the mast-head lights begin to twinkle and flash their invitations to dine or to make plans for the following day; perhaps the flagship wants to communicate something of importance to the rest

## Signals and Communications at Sea

of the fleet and a light blinks from her masthead or yard-arm and is repeated by every ship, an unforgettable sight. The night often seems to have become demented with lights flashing from every direction and the miracle is how a signalman concentrates on the message intended for him and that he is not diverted by the will-o'-the-wisps all round him—truly is the naval signalman a god among men.

### SOUND SIGNALS.

Ships in congested waters of a river or fairway, or if approaching each other, indicate their course, if necessary, by blasts on their syrens:—

One short blast indicates, "I am directing my course to starboard."

Two short blasts indicate, "I am directing my course to port."

Three short blasts, "My engines are going full speed astern."

This latter signal does not necessarily mean that the ship is going astern, as allowance has to be made for her forward way to be checked first.

### SOUND SIGNALS IN FOG.

In a fog, a steam or motor vessel under way sounds one prolonged blast on her syren or whistle every two minutes.

A sailing vessel under way blows on her fog horn, one blast if on the starboard tack; two blasts if on the port tack and three blasts every minute if the wind is abaft the beam.

All vessels at anchor ring their bells loudly at intervals of not more than one minute.

### SUBMARINE SIGNALLING.

Water is an excellent conductor of sound; in fog, signals sent through the air become distorted and as fog is patchy, a fog horn may be heard quite distinctly by a vessel a considerable distance away and yet be inaudible to a vessel nearby.



## Ships and the Sea

Most lightships and lighthouses, therefore, send out bell signals through the water during fogs; the greater the depth submerged, the greater the distance heard, and distances of six miles are often reported.

The bell is suspended from the bottom of a lightship or a buoy, and is sounded either by an electric current or by compressed air, the name and position of the sending station being transmitted by morse.

The messages are received, by those vessels fitted with this system, in instruments, similar to the ordinary telephone receiver, fitted on either bow; these are connected to the bridge indicators and the navigating officer is able to tell his position.

Bell buoys are naturally unattended and the action of their bobbing about or rising and falling in the waves causes a bell to sound; this is received by the ship and the navigator can obtain his bearing by waiting until the sound is equally loud in either receiver, when he knows that he is steering in the direction from which the sound comes.

### WIRELESS SIGNALLING.

The advantages of wireless and wireless telephony need no stressing, but it is strange to reflect that it was as recent as 1903 that the first wireless message was sent across the Atlantic by a ship, the Cunard *Lucania*.

Wireless messages are sent by the Morse system and the distress signal is conveyed by the letters S O S, that is, three dots, three dashes and three dots.

By means of directional finders, the value of which were proved by the Admiralty during the war, bearings can be taken in the same manner as the bearings from bell buoys, mentioned above.

Every British ship of 1,600 tons and above must by law be fitted with wireless and with wireless directional finders.

From the drawing in an earlier chapter it will be seen that the latter usually



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take the form of two hoops placed at right angles, for the same reason that a portable wireless set only catches the waves when turned in the direction from which they are coming.

Wireless is of the greatest value for the broadcasting of weather bulletins and approaching gales.

The former are sent out twice daily from British stations and the latter when necessary.

Wireless is not used when visual signalling would be equally effective, as it would be rather like bellowing at the top of one's voice to a person sitting next to one.

Its greatest value is undoubtedly in peace-time, as during hostilities it may be jammed or intercepted by the enemy, and as new developments are taking place so frequently it is next to impossible to say what might happen in the unhappy event of future wars.

### **NIGHT SIGNALS.**

The signal at night for a vessel requiring a pilot is:—

A BLUE pyrotechnic light every fifteen minutes or,

A WHITE light shown or flashed every minute just above the bulwarks.

In distress and requiring assistance a vessel does any or all of the following:—

Fires a gun or explosive signal every minute.

Shows a flare, continuous if possible.

Throws a rocket, exhibiting stars of any colour, at short intervals.

Sounds her fog horn or syren continuously.

Many companies in the past had their own night signals by which their vessels could make their identity known and some still do; these consist of rockets throwing distinctive balls and stars.

## CHAPTER VII

# Origin and Development of Ships

THAT some form or other of ship has existed almost since time began, is known, but records of any authentic value which can tell us anything much about their construction or form are scarce.

Many of the drawings which have survived were obviously made by artists thinking more of impressionistic effect than of accuracy of detail or even of general correctness of outline and dimensions.

The ancient Egyptians were fortunately an exception to this rule, and if their drawings and records of boats and ships are as accurate as those of buildings and animals, we may accept them as being fairly correct in all essentials.

No doubt also, the Egyptian practice of recording on papyrus, one of the most imperishable of materials, has helped us.

However this may be, it is an undoubted fact that shipbuilding is one of the oldest industries, and there is every evidence to believe that a flourishing maritime commerce existed in the Mediterranean long before the Pyramids were built.

Although the Phoenicians were the greatest maritime power in the Middle Sea, practically nothing is known of their vessels.

Not much more is known of the ancient Grecian craft although many pictures have been found on vases and pottery. Many of the drawings of Roman galleys were made years and years after the ships represented had gone out of existence.

## Ships and the Sea

For the first eight centuries of the Christian era, records were very unreliable and few and far between, although fairly definite evidence has been found regarding the ships of the Norsemen, which type was probably very general in Northern and Western European waters until about the twelfth century.

From the Norman conquest until the reign of Henry VIII, only occasional notes were left, but from this time onward information about warships is much more abundant, although, unfortunately, little is known of the merchant vessels of the Tudor, Stuart and early Hanoverian times.

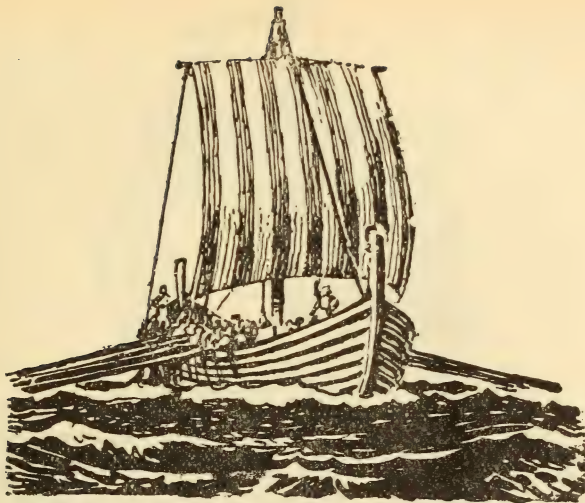


*Possible arrangement of oar-ports in an octoreme.*

It is easy to imagine that the first boats were merely logs of wood pushed out into the stream, because this is still the favourite pastime of many boys and older people, and if one can be found large enough to bear a person's weight, so much the better.

As time went on logs were lashed together and became rafts, and they were probably controlled in a crude fashion by a long pole or sweep, something on the lines of our dumb barges of the present time.

By degrees someone would no doubt discover that, by hollowing out the tree trunk, more goods could be carried, because the wood lost much of its weight but still remained afloat.



SAXON " LONGBOAT "



“ COG ” OF THE CINQUE PORTS NAVY



ENGLISH WARSHIP OF THE TUDOR PERIOD: "GOLDEN HIND"





17TH CENTURY "EAST INDIAMAN"



ROMAN MERCHANT SHIP

The Roman trading community was not as anxious to keep all its operations secret as the Phoenicians were and tolerably good impressions have been found of the merchant ships of the day, with the raffee topsails which did not come into use in the North of Europe until many years afterwards, the lanyard rigging, bowsprit and several other refinements which proved the care with which they studied maritime problems. The high stern shown in the picture is typical of the Mediterranean seafarer's dread of being pooped by a following sea and is confirmation of St. Paul's narrative of casting four anchors over the stern, for the ship would obviously ride most comfortably in that way.



#### TWELFTH CENTURY CRUSADERS' SHIP

The two-masted ship of burden which followed the Normans' ships, which were only an adaptation of those of the Vikings is a type about which there is very little authentic information. It was fuller bodied than its predecessors, capable of carrying a considerable cargo and having a sufficiently high side for a long voyage. Its sail area was bigger but it was still very primitive in its design. The fore and after castles for the fighting men were shipped when they were wanted and a merchant ship was very easily converted into a man-of-war in that way, while the fighting tops were used both as stations in action and as crow's nests for the lookouts.



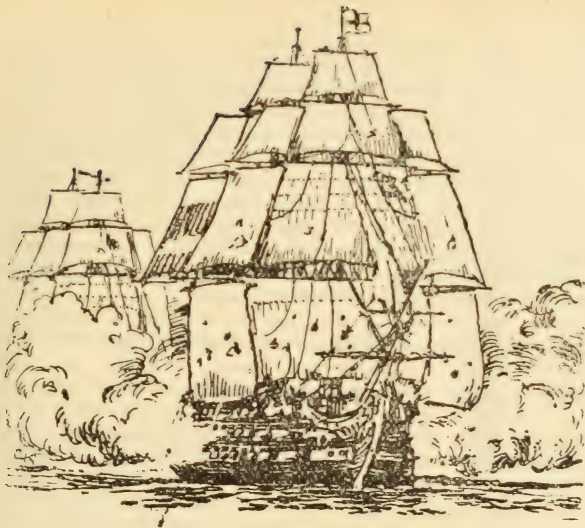
#### VIKING SHIP OF THE SMALLER TYPE

Not all the Viking chieftains who raided the British coast were able to afford the wonderful "long ships" described in the sagas but all their fighting ships were constructed on the same general principles and their "round ships" used for merchandize were only an adaptation, with the single square sail used for running only and the long sweeps pulled by free men with their shields and arms beside them. The manner in which the Norsemen grasped the essentials of ship design for seaworthiness, and the long voyages that they made in their open vessels, are among the wonders of shipping history.



#### ATLANTIC PACKET SHIP

Although the packet class was ultimately to include some of the finest clippers afloat, the earliest examples, which were commissioned soon after the end of the Napoleonic Wars, were anything but clippers but heavily built full-lined ships of moderate size whose hulls were designed primarily for the purpose of carrying a large number of emigrants with the fresh water which was always a great problem and also a reasonable amount of cargo. It was not until the early steam liners were taking the cream of their business that the American designers evolved extreme clippers for the packet trade, but they were not nearly as comfortable as their frigate-built predecessors although they cut down the voyage considerably.



LINE-OF-BATTLE-SHIPS OF TRAFALGAR PERIOD: H.M.S. VICTORY



## Ships and the Sea

Many so-called uncivilized people, such as the islanders of the Southern Seas and the tribes of Central Africa, still produce beautiful specimens of the hollowed-out canoe.

The earliest type of *built-up* boat, as distinct from the *dug-out* canoe, was probably made by stretching skins of animals over frames and this type survived until a few years ago in quite large numbers on the Western coast of Ireland.

The most complete details of any craft of antiquity available are those concerning the Ark of Noah, described with such detail in the Bible, and which, if the date usually assigned to its construction is correct, was built in about 2840 B.C. and although Egyptian records have disclosed the existence of vessels immensely older than this, none of them is sufficiently detailed or accurate to merit much attention.

The Ark was undoubtedly a built-up ship of very considerable size, and proves that the knowledge of shipbuilding possessed in those days was very well advanced.

According to the biblical version, which there is no reason to doubt, its dimensions were: 450 feet long, 75 feet broad and 45 feet deep.

It is impossible to say when the first decked-vessel was introduced, but the Egyptians, Phoenicians, Greeks and Romans undoubtedly possessed large numbers of them.

Phoenicians were probably the first to build galleys essentially for war purposes in about 900 B.C., and the Greeks brought this type to perfection by introducing biremes and triremes, that is to say galleys propelled by oars banked in tiers rising one above the other. Many tales are told of some of these rising to huge size, and later still the Romans are reported in about 200 B.C. to have used galleys with sixteen banks, but there is much doubt as to what this term always meant, it being impossible to construct a ship in which sixteen banks or decks of rowers were placed because the height of the top row above the water would make it absolutely ridiculous.



## Origin and Development of Ships

About one hundred years ago, however, a valuable discovery, throwing light on this point, was made at the Piraeus, when a drain was found to be constructed with slabs which bore inscriptions proving to be inventories of the ancient Athenian dockyard; these slabs were dated between 373 B.C. and 323 B.C. and they show that a typical Grecian trireme of that period measured about 140 feet long over the beak in front, 14 feet in width on the water-line and had a draught of about eight feet.

Such a vessel would carry a crew of about 225 men of whom 174 were rowers: sixty-two occupying the upper, fifty-eight the centre and fifty-four the lower tier.

Each oar was worked by only a single man and the inventories state that the longest oar in use in triremes was 13 feet 6 inches long.

The largest possible galley would seem to be a quinquereme or five-banked ship, and those supposed to have been larger were probably measured by taking the number of rowers in a fore and aft direction and multiplying these by the number of banks; in this way a forty-banked galley probably meant five banks of eight in a row.

The galley, and the large type, called galleasse, survived in the Mediterranean right down to the sixteenth century and pirates used them extensively; they were manned by slaves and fearful were the conditions. Sometimes seven or eight men pulled at each oar.

They were very formidable craft and we read of the Battle of Provesa in 1538, when the Christian fleet commanded by Andrea Doria, numbering about 200 ships, fled before the 122 galleys of the dreaded corsair Kheyr-ed-Din Barbarossa, Commander for Suleiman the Magnificent.

In Northern waters the long ship of the Norsemen held sway and the merchant ships were designed in the same way, except that they were much broader and were in consequence known as "round ships."

## Ships and the Sea

All these craft were propelled by rowers assisted by one large square sail set upon a single mast.

As time went on the ships became larger, other masts were added and for fighting purposes high castles or towers were built up at either end, sometimes to a ridiculous height.

With many modifications and improvements this type survived right down to the nineteenth century, and the ships of Trafalgar were not so very much different from those of the Armada.

Steam brought about the first revolutionary change in ship construction and design, but in the early days it was not taken much notice of; during the early years of the nineteenth century it first came into prominence, but engines were put into existing ships and were only used as auxiliaries to sail for very many years.

In the Crimean war of 1854 a British warship was sailing into Balaklava harbour and the high land and baffling wind caused her to fall across the bows of a consort already anchored, whereupon the latter signalled, "Why don't you go astern?" The Commanding Officer of the guilty vessel replied, "Sorry, I forgot I was a steamer," and so it will be seen that sail had a strong hold.

The first commercial success with an iron-built ship was the introduction of the *Sirius* in 1837.

So the development of ships has really been well within the last hundred years and things have moved so fast that it seems difficult to realise that for hundreds of years previously things had gone along in much the same sort of way without radical change.

Paddle-wheels were superseded by the screw, the old type of engine gave way to the compound and triple-expansion, and this made possible the first steamship with any claim to economy.

## Origin and Development of Ships

Iron was replaced by steel and the triple expansion by turbines and geared turbines for ships of high speed.

Since the opening of this present century, has come the motorship and the turbo-electric vessel, the introduction of elastic steel and electric welding in place of riveting.

The line-of-battle ship of 1850 used sail with a steam auxiliary, was little more than 250 feet long and moved at about six knots, not a tremendous advance on all that had gone before; the modern battle cruiser is driven by steam turbines, has a length of close on 900 feet and a speed of about thirty-five knots.

What the future holds, none can foretell and perhaps if things move at the present rate it is just as well.

## CHAPTER VIII

# Ship Construction

A SHIP floats because of her shape; that is to say that a flat or solid piece of metal placed in the water would sink, but because it is shaped like a tin or a box it floats on account of it becoming lighter than the water, as its interior is full of air.

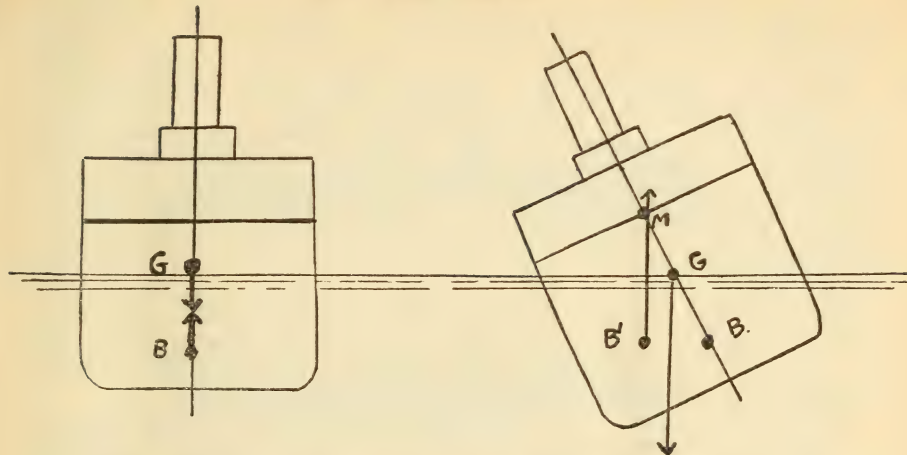
Now the point of balance of any object is termed its *Centre of Gravity*, and in a ship, the weight of her *Downthrust* into the water is concentrated at this point; the water pushed aside or displaced by the ship also has a centre of gravity which is called *Centre of Buoyancy*, and from this point the force or pressure of water, called the *Upthrust*, is equal to the downthrust of the ship.

When a ship floats on an even keel the Centre of Gravity (G) and the Centre of Buoyancy (B) are in a direct line.

If outside influences, such as force of waves or wind, cause the ship to heel over or roll, the water pushed aside does not remain in its original form so that although the Centre of Gravity of the ship remains the same approximately, the Centre of Buoyancy of the water shifts to one side and is spoken of as B. Consequently the downthrust and upthrust are no longer in a line, but, to cut a long story short and without entering into technicalities, the upthrust from B cuts the continuation of the original line G-B at a place called M and pushes the ship back again.

This place (M) is called the *Transverse Metacentre* and the distance between M and G is the *Metacentric Height*.

# WHY A SHIP REMAINS AFLOAT



*G.* Centre of Gravity of ship ; thrusting downwards.

*B.* Centre of Buoyancy of water ; thrusting upwards.

*G-M.* is not drawn to scale and in merchant ships varies from between about 1 to 3 feet.

*B¹.* New Centre of Buoyancy.

*M.* Transverse Metacentre.

*G-M.* Metacentric Height.

## Ships and the Sea

Actually, therefore, the greater the Metacentric Height the safer the ship is, because she can roll a great deal without danger of capsizing, but as a rolling ship is uncomfortable to travel in, this Metacentric Height has to be kept fairly low.

The angle at which a ship loses all power to right herself is her "Vanishing angle."

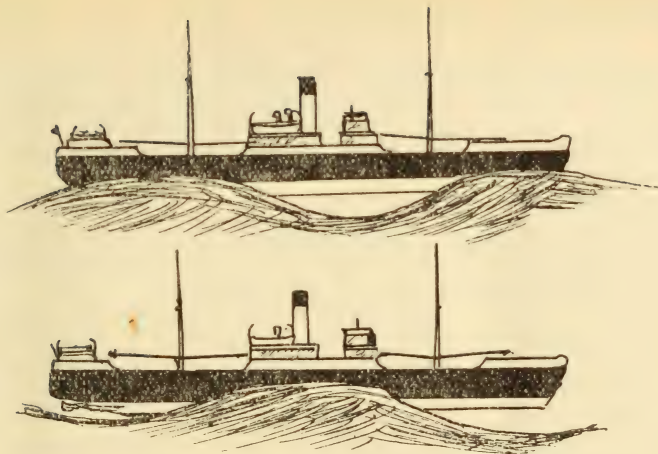
Mishaps fortunately do not often occur, but there was one very famous ship afloat which fell over at her launch and had it not been for the fact that she was launched by letting the water enter the dock where she was built, instead of being actually let down slipways into the river, she would have probably turned completely over, but as it was, the sides of the dock held her up; malicious persons state that the designer was so overcome by the tremendous honour accorded to him of being asked to design her that he miscalculated, and added the date of her launch to her displacement tonnage in order to find the launching weight; this is naturally scandal.

Bearing in mind these main principles, all sorts of other important items have to be allowed for. A ship must be of great strength longitudinally; for instance, if her bow and stern are resting on the crests of waves, her midships portion may be unsupported and so she might have the tendency to break her back, or if her centre is resting on a wave her ends might break off.

To minimise pitching, fore and aft peak tanks for water ballast are fitted.

Many tankers, which have to be exceptionally strong, are built on the *Isherwood* Longitudinal system which is a very definite step in the right direction for lessening the serious lack of longitudinal strength in ships.

In this system, the transverse frames and beams, instead of being spaced from about 2 feet to 2½ feet apart as in vessels constructed on the ordinary method, are placed at wide intervals of about 12 feet. They are made much stronger than usual in order not to lessen the transverse strength and they form complete bands round the ship.



DIAGRAMS ILLUSTRATING STRAINS ON SHIP CONSTRUCTION

1. *Bow and stern resting on waves ; centre unsupported.*
2. *Centre resting on wave ; ends unsupported.*



These frames or bands are slotted round their outer edges in order to allow continuous longitudinal stiffeners to be fitted, not only at the decks but also on the sides, bottom and tank top and they prevent buckling which frequently occurs in ships having no fore and aft support between the transverse frames. It is stated that an "Isherwood" ship is fifteen per cent stronger longitudinally than ordinary ships.

Towards the end of last century a curious type of ship came into being through the patenting by Wm. Doxford of Sunderland of the *Turret* ship. This type also had great longitudinal strength because the upper part formed a kind of girder running the whole length.

Below water, the hull-shape was the same as for an ordinary kind of vessel, but a few feet above the waterline the sides curved inwards instead of going straight up, and formed a ledge or narrow deck, technically known as the "Harbour deck"; from this deck the sides continued straight up in the usual manner to the upper deck, which was about six-tenths of the width of the vessel.

This construction had two advantages; one was that on account of the harbour deck being *not permanently enclosed*, it was not subject to harbour and port dues and so timber and other such cargo could be carried on deck and the space so occupied was not registered, and the second was that the increased freeboard, obtained by the higher sides, increased the deadweight of cargo that could be carried and at the same time added to the seaworthiness.

Vessels of very large size were constructed on this principle, some having only a single hold entirely clear of girders or beams, but there are only a few turret steamers left to-day.

Ships with *Corrugated* sides are also occasionally built; they are sometimes called *Tubular* and have two or more long corrugations below water projecting from the side, and which give an added cargo space, and it is said that less resistance is encountered.

## Ship Construction

The world-wide slump in shipping during the last decade has at least brought about an intense research into ship form and design with a view to producing an economic and efficient type of general trader.

Many new devices for saving fuel, or for increasing speed without burning more fuel, have materialized by improving machinery and careful research into the question of friction or resistance has improved hull design.

New types of screws and rudders have been adopted and existing ships have been adapted to take these improvements and new ships have been built on entirely novel lines.

Sir Joseph Isherwood, who was responsible for the introduction of the Longitudinal method of construction mentioned earlier, brought out the *Arcform* design, the chief feature being that the sides of the ship are arched or curved instead of being straight and it is claimed that this efficiency type has the following advantages: Reduced consumption of fuel or increased speed, improved ballast condition, increased cubic capacity, increased strength and increased deadweight.

More and more ships are having their straight stems replaced by *Maier* bows and more and more ships are designed and built on a full *Maierform* design.

The *Maier* bow was first thought of in 1878 by Mr. F. F. *Maier*, who had given long study to wave resistance, and his idea was that the less the water is disturbed the less resistance in consequence, and the *Maier* bow is sloping and rising so that owing to the uniformly sloping frames the streamline flow is almost parallel over the entire surface, resulting in much less frictional resistance.

A ship built especially to a given design must naturally give better results than an existing ship re-built to embody more modern ideas, but it is claimed that an ordinary vessel fitted with a *Maier* bow will gain at least one knot in service speed and sometimes considerably more.

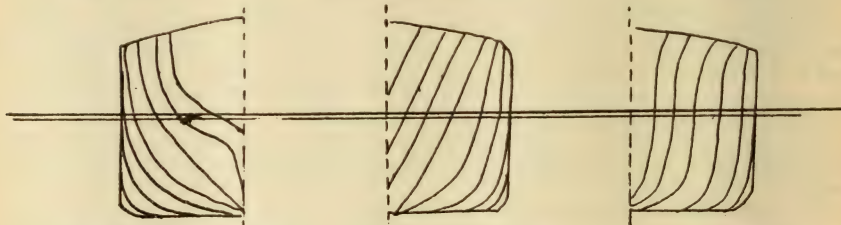
# VARIOUS METHODS OF HULL CONSTRUCTION



*Usual type.*

*Isherwood "Arcform."*

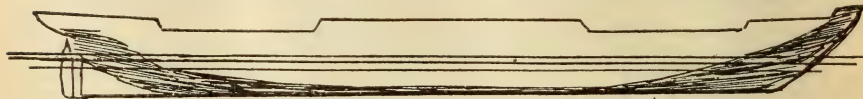
*Turret.*



*Maier form, stern lines.*

*Maier form, bow lines.*

*Usual bow lines.*



*Broadside of Maier form hull.*

## Ship Construction

Much attention is also given nowadays to the rounding of superstructures, and in general a rounded front must offer less resistance to the wind than a straight flat front like the side of a house, but it is nevertheless the fact that a certain amount of this rounding, often incorrectly called "streamlining," is only fashion and not always beautiful if carried to too great lengths.

A recent development is that of placing the boilers on deck with the bunkers above and many advantages of economy are claimed.

It enables the space normally occupied by boilers below decks to be utilised for cargo and a saving up to ten per cent to be effected; it gives a considerably easier rolling movement in ballast and is said to increase the ship's stability.

A question that has exercised many minds is, what is the best way of putting on the name of a ship?

Some cargo ships have their names painted prominently along the side, and so did many neutral ships during the war, and it has much to commend it, although for liners it is rather unsightly.

The name wants to be prominent but not inartistic and in the days of black hulls the old brass lettering was fairly efficient but it does not show up well on white or light-coloured hulls and the tremendous flare on some modern ships quite overshadows any small letters.

The new Orient ship, *Orion*, has large green letters; they are distinctive but opinion differs with regard to their aesthetic value.

*Orion* also has her name on either quarter instead of round the stern, a method hitherto almost exclusively adopted by warships.

## CHAPTER IX

# The Birth of a Ship

### Conception, Plans, Design, Tests, Building and Launch.

**L**ONG before the order for a ship is placed, many problems have to be considered, the chief of which is, for what particular class of trade is she required ?

The naval architects and designers must know whether she is intended as a record breaking flyer, wholly for the carriage of passengers, for passengers and cargo or for cargo only, in which case they must know whether she is to have refrigerated or insulated place. They must know whether she is primarily intended for service in tropical countries, or whether she is to be placed on a run which demands large bunker spaces because of distance between ports of call.

A warship designer is faced with similar problems, only even more complicated, because he has to keep abreast of the very latest developments in naval armament and he has to consider whether decks are to be made invulnerable from air attack, whether speed is to be sacrificed to heavy armour or the reverse and he has to keep within limits imposed by international treaties and within financial limits imposed by the Treasury.

These points being decided, preliminary plans are drawn up and generally three principal plans are made:

1. *The General Arrangement*, which deals with accommodation, cargo spaces, ballast tanks, victualling arrangements and the internal lay-out generally.

## The Birth of a Ship

2. *The Midship Section*, indicating the dimensions or *scantlings* as they are technically called, of all the materials to be used in the construction.
3. *The Sheer Draught*, which includes the broadside lines of the ship, the half-breadth plan, showing her water lines as seen from above, and the body plan showing the section of the ship from either end.

One of the chief problems to be solved is that of wave resistance and so the next thing to be done is to construct a large wax model of the hull from the above plans; this is taken to the experimental tank in the builder's yard or elsewhere and attached to a movable framework spanning the tank which may be anything up to 400 feet in length, and it is drawn through the water at a rate proportionate to the designed speed for the real ship. Very intricate instruments record the wave resistance and by a long series of such experiments the ideal shape to meet the requirements is established. The water in the tank is ruffled to heights corresponding to the height of waves likely to be encountered in reality.

In the case of *Aquitania* one of the most important modifications was the addition of 15 feet to her length.

The tank experiments conducted on the model of *Queen Mary* were over 7,000 in number, and the various models travelled a distance of more than 1,000 miles up and down the tank.

Similar detailed tests are carried out for wind resistance to find the right height for the funnels so that smoke is carried clear of the decks and to find the correct angle or rake for both funnels and masts.

The total weight of plates and rivets has to be carefully estimated before any work is commenced and, although the chief aim is to cut down all weight as much as possible, strength must never be sacrificed; all dimensions and thicknesses of



## Ships and the Sea

plates having to be up to a meticulous standard drawn up by the various ship classification societies and by the Board of Trade.

The use of high tensile steel of a very special quality has been adopted for the topsides of many large ships recently, and welding of plates, instead of overlapping, gives increased strength and does away with the weight of rivets, which is considerable when it is remembered that in a ship of giant size anything up to 10,000,000 rivets may be required.

The model tests being completed, the revised plans are taken along to the *Moulding Loft* which is an immense low-roofed building having a well-lit floor that is black-painted. On this floor, full-size drawings of the different parts of the skeleton are made in chalk and from these chalk drawings, curves are taken with wooden battens to serve as patterns for the actual framework of the ship.

In the loft, wooden moulds are made for all the heavy plating and a paper or thin wood template taken for every plate to be used, running into thousands and varying in size from 8 feet to 30 feet in length, and in these patterns every rivet and bolt hole must be marked in the exact position.

All this and very much more preparatory work having been completed, the next step is to lay the keel and commence building.

But long even before the keel blocks are laid, careful measurements have been taken to ascertain as nearly as possible the exact amount of tallow that will be required to move her down the slipway on which she is to be built, and a thousand and one other seemingly small and yet essential calculations have to be made to ensure that on the great day all shall go off without a hitch as far as human agency can help to make it.

Special ground has first to be prepared for the keel blocks; it must be in such a position that the hull has sufficient length or width of water in which to float clear without running into the river bank on the opposite side, as happened during the



## The Birth of a Ship

war when shipyards built ships to a standard size and accidents or mishaps occurred because there was not always sufficient care taken in launching precautions.

Giant gantries for travelling cranes, and foundations for a row of cranes on either side of the building berth, have to be laid.

Keel-blocks are massive slabs of hard timber at suitable distances, so adjusted that the keel will lie on them at the right angle for launching, and giving the necessary slope from bow to stern to allow the weight to slide into the water at the moment of launching; this declivity is approximately half an inch for every foot of length.

The keel of modern ships is a flat plate very different from the massive creation of great depths seen in model yachts, or in real ones for that matter, and it runs from stem to stern and forms the backbone of the ship from which all the frames or ribs are built up.

The next thing is to build up the cellular double bottom or series of tanks between the inner and outer bottoms, so providing for the safety of the ship if her outer one is ripped open, and which serve also for the storage of water or oil. In the case of very large Atlantic liners the hull is practically double right up to the level of the upper deck.

The tank top or the top of the double bottom is therefore the real floor of the ship in the same way that the ground floor is in a house, although the latter may have cellars below.

It would take too long here to describe all the various plates, brackets and angles that are used and it must just be said that from this stage onwards are built up the frames for the side plating and the cross beams for the decks until the whole looks like the skeleton of some gigantic sea monster in which are left cavernous holes for engine rooms, holds and boiler spaces.

One of the most skilful operations is now performed by the fitting into place of

## Ships and the Sea

the huge stem and stern frames and the *Queen Mary's* stern frame, shaft brackets and rudder weigh just on 600 tons.

The gaunt framework is now clothed by the thousands upon thousands of plates, each complete line or row of which is called a *strake*, the *garboard strake* being that immediately next to the keel, the *main strake* that on a level with the main deck and so on.

Where the bottom of the ship begins to curve upwards is the *bilge* and to this are fixed the *bilge keels* which give stability and reduce the rolling tendencies. Armies of caulkers follow up the riveters and beat the edges of all the plates together and make them watertight.

Screws are fitted to the propeller shafts, and each probably weighs about 30 tons.

In the hull and superstructure of a ship like the *Queen Mary* over 2,000 portholes and windows have to be cut and fitted with glass varying from one foot to two feet in diameter.

The ship is now ready for launching, the first and probably the most critical event of her career and one of tremendous anxiety both for the designer and for the staff responsible for safely transferring a huge weight of metal into her natural element.

Finally, before the day of launching, channels have to be dredged and kept clear and careful watches kept on the tides.

Nearly all ships are launched when they reach the state described; sometimes, however, they have been launched fully equipped and ready for sea, but the risk is tremendous and they are usually built and launched so that their stern slides into the water first, although some very small craft are launched broadside on.

As soon as work is sufficiently advanced, heavy timbers of very hard wood are laid on either side of the keel and fixed to the berth; these are called *ground ways* or *standing ways* and are extended beyond the stern into deep water to lessen the

## The Birth of a Ship

risks of the ship tilting and breaking her back before she is sufficiently supported by the water.

On top of the standing ways are placed the *sliding* or *launching ways* and at the ends of these are built up stout *cradles* under bow and stern to take the weight and keep the ship upright when all shoring and staging is removed.

Next comes the stupendous task of transferring the whole weight of the ship from the building and keel blocks to the launching ways and the longer that a ship takes to reach the launching stage the more is she inclined to settle or sink into these keel blocks. This operation, known as *Setting up* is carried out a few hours before the time set for the launching ceremony to take place and it is done by placing a continuous layer of wedges on each side of the sliding ways.

As the crucial moment draws near, armies of workmen are busy removing keel and bilge blocks so that at the vital moment she is held by as few as possible, but keeping close watch on her *liveliness* or tendency to move as the successive supports are withdrawn.

Finally the last blocks are released and the hull is kept in position merely by the mechanical triggers and steel clamps fixed to the launching ways, an anxious and precarious position, as the weight cannot be held for long as the creaking of timbers and the mechanical drag-gauges indicate.

An hydraulic ram is also set up in case it may be necessary to give the hull an initial push to set her moving

The ceremony attendant upon the launching of a ship is too well-known to need *lengthy* description here, but it may be of interest to record that until 1811 the ceremony was carried out entirely by men and it is said that the Prince Regent introduced the feminine element.

It was customary until 1690 to drink the ship's health from a silver cup which was then thrown overboard, but this proved rather costly and so a bottle of wine

## Ships and the Sea

was substituted; at first this bottle was thrown at the bows of the ship as an unattached missile, but on one occasion a lady, in performing this graceful ceremony, threw the bottle, missed the bows completely, and hit a spectator who was seriously injured and who sued for damages. Henceforth the bottle was to be secured by a lanyard as at present.

The bottle of wine having been broken, the lady christens the ship, presses a button which electrically releases the weight that comes down on to the last remaining supports, called "Dog shores," and the towering mass quivers, perhaps for a few minutes, and then slides down the ways, gathering momentum as it goes and carrying with it a mass of timbers and spars with an ever increasing roar like some gigantic forest king breaking through the trees by which it is encircled in a determined attempt to quench its thirst at a watering hole. With a final and smooth glide her stern touches water and lifts amid a boiling and bubbling of the waters and the inanimate mass of metal becomes *waterborne*, enveloping itself with a personality all its own; a new creation is born and a thing of metal becomes alive.

To prevent a great mass weighing perhaps 40,000 tons from travelling too far on account of the momentum, a series of *Drag-chains* or iron cables is fixed to the hull before the launch, and these help to retard her rate of progress; within a very few minutes, powerful tugs have taken charge of her and she is slowly brought round to the *fitting-out berth* near by, where she remains until completed.

During all this time up to her launch, work has been carried on in shops and foundries all over the country, making her engines and boilers and all her internal fittings.

*Queen Mary* has four gear-wheels to her turbines, totalling 320 tons in weight, turbines with over a quarter of a million blades, each of which was set up and tested by hand; she has twenty-seven enormous boilers with 160,000 tubes and she has nearly 3,000 feet of steam piping.

## The Birth of a Ship

All this is brought alongside and placed on board; trainload after trainload of all kinds of manufactured articles arrives and is swallowed up by the insatiable monster.

Four thousand miles of electric cables are run along seemingly interminable corridors and over 30,000 electric lamps are installed.

Upholsterers and cabinet-makers are tripping her up inside until one is tempted to forget that she is a ship.

Gigantic funnels and masts are stepped into place and perhaps a year or eighteen months after her launch she is ready for her trials.

A cynic once said that a ship was feminine because she was sometimes difficult to handle, but I prefer to think that it is because she is the most perfect of all human creations.

Exhaustive trials are carried out, both on measured miles, of which a list will be found on the next page, to ascertain her speed, and on runs of twenty-four or thirty-six hours; turning circles and helm handiness are recorded; compasses and navigational instruments are tested, and, in the case of warships, gunnery tests have to be made.

When engaged on these trials a vessel wears the International Code flag "A" as a warning to other craft in the vicinity to keep as clear as circumstances will allow.

Assuming that these trials are satisfactory, the great date for commissioning arrives, stores and provisions are taken in, officers and crew begin to shake down and eventually her greatest moment arrives—the hoisting of "Blue Peter" for her maiden voyage.

## **Ships and the Sea**

### **Measured Miles.**

There are "Measured Miles" at the following places in the United Kingdom.

ABERDEEN HARBOUR.

ABERLADY BAY, in the Forth.

BELFAST LOUGH.

CROSBY CHANNEL, Liverpool.

HARTLEY, near the mouth of the Tyne.

ISLE OF GRAIN, in the Medway.

KING ROADS, Bristol.

LONG REACH, in the Thames.

LOWER HOPE REACH, in the Thames.

LOWESTOFT NESS, off Great Yarmouth.

MAPLIN SANDS, in the Thames Estuary.

NETLEY, Southampton.

PLYMOUTH.

RYHOPE, Sunderland.

ST. ABB'S HEAD, Berwickshire.

SANDY BAY, Middlesbrough.

SKELMORLIE, in the Clyde.

SLAPTON, Dartmouth.

STOKES BAY, Portsmouth, the Solent.

SUNK ISLAND, in the Humber.

TAY.

WITHERNSEA, in the Humber.

WEMYSS BAY, in the Clyde.



## CHAPTER X

# Parts of a Ship

### General.

**HULL.**—The extreme front of a ship is called the *Stem*, which may take one or more forms, such as *straight* or perpendicular from top to bottom, *raking* or *sloping*, *clipper*, *yacht* or *fiddle* stem, such as is seen in sailing vessels and steam yachts and one or two other variations. Immediately behind the stem, on each side of the ship, are the *Bows*, and bow and stem are more often than not spoken of together.

The *raking stem* has come more and more into favour in recent years, partly because it lessens resistance and so increases speed, if desired, and partly because it reduces the damage done by a bow-on collision, because it is usually constructed of soft steel; the top part only penetrates and so prevents a deep gash and it crumples upon impact; the Blue Funnel line was one of the first to adopt it.

The *bulbous bow* is similar in appearance, but is rounded towards the top.

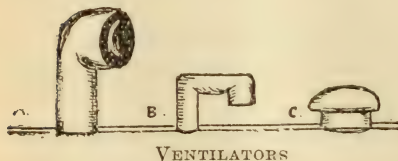
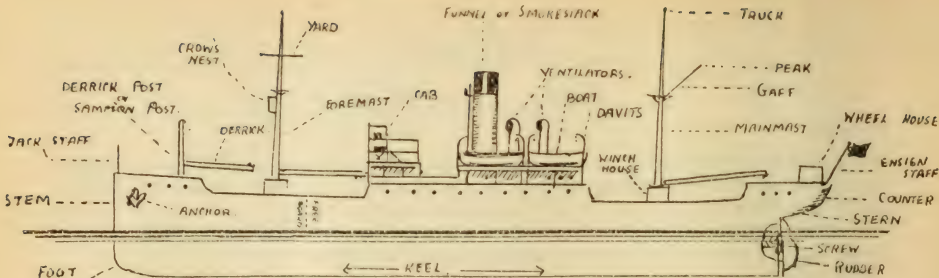
The *Maier bow* has the same effect as the raking stem in reducing resistance and it is described in the article on ship construction; Maier bows are often fitted to ships not otherwise constructed on the Maier principle.

*Trawler bows*, as their name implies, were originated in fishing craft but they were adopted for some of our cruisers on account of their keeping the ship drier in head seas.

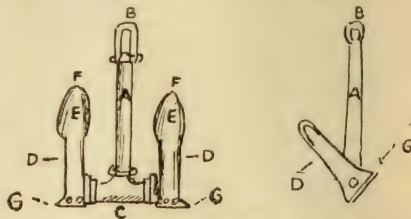
The word bow comes from the old saxon word meaning a shoulder.



# PARTS OF A SHIP



VENTILATORS

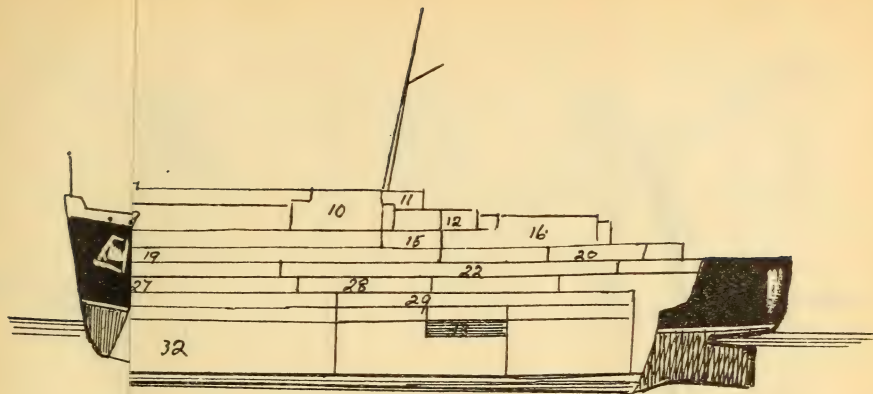


STOCKLESS ANCHOR

- A. Cowl Type.
- B. Goose Neck (usually in scuppers)
- C. Mushroom (largely in warships)

- A. Shank.
- B. Ring.
- C. Crown.
- D. Arms.

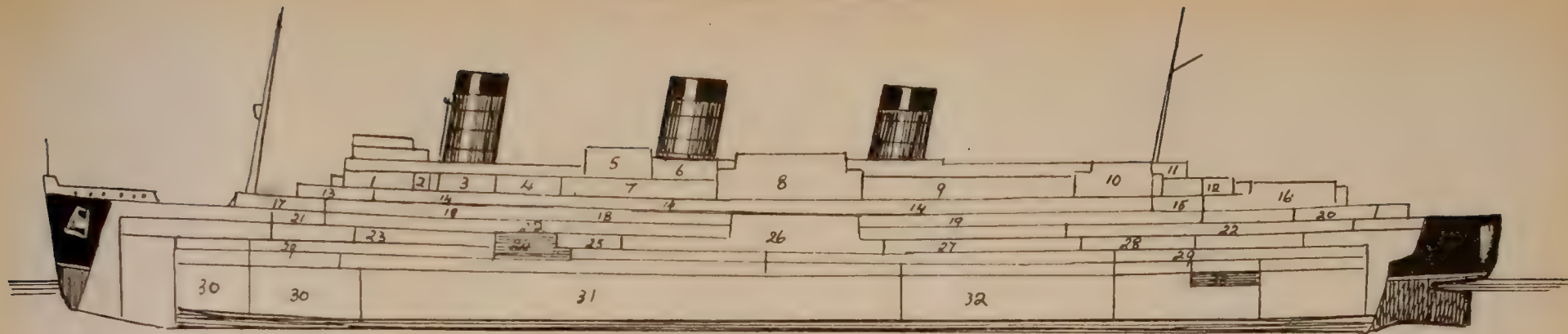
- E. Flukes.
- F. Bill or Pen.
- G. Tripping Palms.



- 23. RESTAURANT.
- 24. SWIMMING POOL.
- 25. FOYER.
- 26. RESTAURANT.
- 27. KITCHENS.
- 28. RESTAURANT.
- 29. PASSENGER ACCOMMODATION.
- 30. CARGO.
- 31. BOILER ROOMS.
- 32. ENGINE ROOMS.
- 33. SWIMMING POOL.



# SECTION OF R.M.S. "QUEEN MARY."



1. COCKTAIL BAR.
2. STUDIO.
3. LECTURE ROOM AND CHILDREN'S ROOM.
4. LIBRARY AND DRAWING ROOM.
5. SQUASH RACQUET COURT.
6. GYMNASIUM.
7. SHOPS.
8. MAIN LOUNGE, THEATRE AND BALL ROOM.
9. GALLERIES AND BALL ROOM.
10. SMOKING ROOM.
11. VERANDAH GRILL.

12. SMOKING ROOM.
13. WINTER GARDEN.
14. PASSENGER ACCOMMODATION.
15. LIBRARY.
16. LOUNGE.
17. SMOKING ROOM.
18. PASSENGER ACCOMMODATION.
19. PASSENGER ACCOMMODATION.
20. LOUNGE.
21. LOUNGE.
22. PASSENGER ACCOMMODATION.

23. RESTAURANT.
24. SWIMMING POOL.
25. FOYER.
26. RESTAURANT.
27. KITCHENS.
28. RESTAURANT.
29. PASSENGER ACCOMMODATION.
30. CARGO.
31. BOILER ROOMS.
32. ENGINE ROOMS.
33. SWIMMING POOL.



# BEARINGS RELATIVE TO A SHIP



At the other end of the ship is the *Stern*, which, like the bow or stem, can be of various types.

The *Cruiser stern* is generally adopted at the present time as it is stronger than the old *elliptical* or *counter stern*, allowing more accommodation or weight to be built right aft, and it lessens resistance and so increases speed or saves fuel.

*Tug* and *trawler sterns* are variations of the cut-away type.

The *economy stern* was a war-time measure, saving the cost of rounding the stern plates, as it is a flat plate like the end of a box.

Anything on the line running from bow to stern is said to be on the *Fore and Aft line*, and anything on the line running at right angles to this or across the ship is said to be *Athwartships*.

*Amidships* explains itself.

Anything in front of the 'midships line is said to be *forward* (pronounced forrard), whilst things behind it are said to be *aft* or *abaft the beam*.

Anything on the left-hand side of a ship looking towards the bows is on the *Port* side, and anything on the right-hand side is on the *Starboard* side.

Starboard takes its name from the old days when ships were steered by a pole or board called a *Steerboard*, which was always put over the right side.

In consequence of this sticking-out pole it was necessary to approach land with the other side of the ship and to run alongside a quay on the left side, which was called, until 1840, the *larboard* side, probably from the *lay-board* or from the *loadboard*, which was the gangway from ship to shore; this was confusing with *starboard* and so the name *port* was adopted, which perpetuates both the original significance and the fact that a port (French "door") was cut at the top of the *lay-board* to allow egress from the ship.

The *Weather side* is the exposed or windward side of a ship; and the *Leeward* (pronounced Loo'ard) is the sheltered side.



# DECKS, BOWS, STEMS, STERNS AND LOADLINES

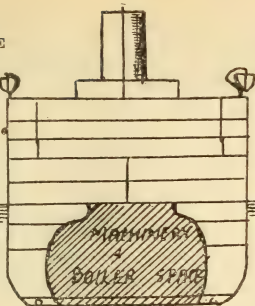
## NEW STYLE

SUN or SPARS  
PROMENADE

A.  
B.  
C.  
D.

ORLOP.

LOWER ORLOP

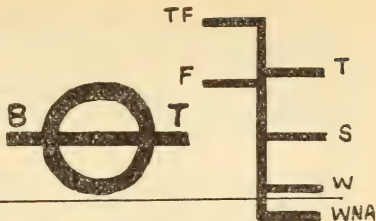


## OLD STYLE

BOAT  
PROMENADE  
BRIDGE or SHELTER.  
UPPER  
MAIN.  
LOWER

ORLOP

LOWER ORLOP



## LOADLINES.

B.T. Board of Trade.

T.F. Tropical Fresh Water.

T. Tropical. F. Fresh.

S. Summer. W. Winter.

## STEMS.

WNA. Winter North Atlantic (not for Vessels over 330' , nor for tankers).



Straight.

Sloping  
or raking.

Clipper, Yacht  
or Fiddle.

Maier or  
Spoon.

## STERNS.



Counter.

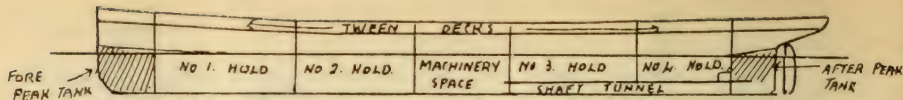
Cruiser.

Tug.

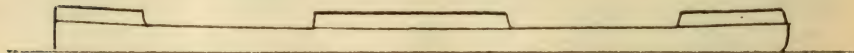
Economy.

Cut away or Elliptical.

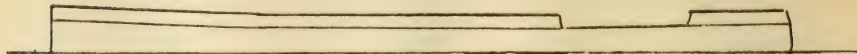
# VARIOUS BUILDS OF SHIP



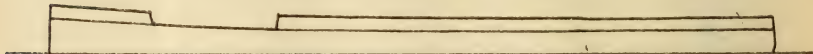
*Flush Decker.*



*"3 Island" type with raised forecastle, bridge and poop.*



*Combined Forecastle and Bridge type, with poop.*



*Combined Bridge and Poop type, with forecastle.*

## Parts of a Ship

This brings us to the principal measurements of a ship's hull:—

*Length* is usually given in tables of reference and in registers as *length between perpendiculars* (B.P.), and is measured from fore side of stem to after side of stern post.

*Length on waterline* needs no explanation.

*Length overall* (O.A.) is extreme length, measured from foremost part of stern or bowsprit, if carried, to aftermost part of counter, and in vessels having elliptical sterns and raking stems the overhanging portion is quite considerable and adds a good deal to length between perpendiculars.

*Beam* is the extreme breadth of a vessel at her widest part, her longest beam or cross bar. Varies slightly in registers according to whether measurement is taken inside or outside plating.

*Depth.* *Registered depth* is measured from top of double bottom if there is one, or otherwise from top of floor to top of upper deck beam, and is slightly less than *Moulded depth*, which is measured from top of keel to top of upper deck beam.

*Depth of hold* is practically the same as registered depth.

The depth to which a vessel floats in the water is known as her *Draught*, or draft, which actually varies according to conditions of loading and according to seasons and places; the registered draught is taken to the centre of load-line; a vessel of 8,600 tons deadweight drawing 24 feet 4 inches, will, at a winter dead weight of 8,300 tons, draw only about 23 feet 10 inches.

A vessel is said to be travelling *light* or *in ballast* when she has very little cargo and is consequently sitting high out of the water, with her screw tops often visible churning up the sea.

The height of hull or side from waterline to top is spoken of as *Freeboard*.

The depth of a vessel in feet is indicated, in roman figures, on either bow to a height just above the waterline.

The bottom part of the stern is known as the *foot*. Most vessels sit lower in the water aft than they do forward, and there are usually fore *and aft peak tanks*

## **Ships and the Sea**

containing water ballast which is utilised to trim a vessel, especially when a ship is travelling light, that is, without cargo.

Every vessel has her name painted on the bows; and round the stern, or on the counter in a vessel with a cut-away stern, is painted her name and, beneath that, her *port of registry*, which is either the place where she was built or the registered number of her owner.

Vessels belonging to countries not using the Roman alphabet have the name first in the lettering of their country and then in Roman letters.

British Warships have their names on each quarter and never on the bow.

### **Load-Lines and Freeboard**

In the bad old days many ships were lost through overloading, and after tremendous opposition Mr. Samuel Plimsoll, a native of Bristol who lived from 1824 to 1898 and who represented Derby in the British Parliament, managed to pilot a bill, called the Merchant Shipping Act, through the House in 1876.

This act provided principally for the fixing of a draught for every ship, below which it was illegal to load the vessel, and entailed the placing on the hull of the ship amidships, a disc with a line drawn through the centre.

This line is known as her Load-line or Plimsoll mark.

On January 1st, 1933, slight modifications and variations came into operation, following an International conference which sat in London in 1929 and 1930, called the International Safety of Life at Sea and Load-line Conventions.

Under this convention, certain freeboards were increased but a greater number were lessened, the regulations being relaxed on account of the greater security of modern vessels due to improved hatch-covers and so on; this particularly affected tankers which have a large number of small, hermetically sealed hatches.

Every British ship is now compelled to carry these marks, with the exception of a few small ships of less than 80 tons measurements, fishing craft, private yachts

## Parts of a Ship

and pleasure steamers round the coast; the latter are regulated by being forbidden to carry more than a certificated number of persons.

The new marking is slightly different from the old, and the cryptic lettering at the end of each prong of the "toasting fork" allows variation according to the destination of the vessel or the time of year; for instance a ship floats deeper in fresh water than in sea water and so a vessel loaded down to the FW mark will rise when reaching salt water.

In the days of wooden ships, the underwater portion was protected by metal, such as sheet-copper, and this was carried up to the waterline and between this top edge and the hull there was a kind of padding or washer of felt, or some other material, known as the *boot-topping*; to-day the name is used to indicate the strip of paint along the waterline, usually of a different colour from the rest of the hull and an important feature for recognition.

A ship is said to *sag* when the midship portion sits lower than the ends; this is in a way common to nearly all ships as there is a very distinct *Sheer* or slope up towards bow and stern.

*Hogging* is the reverse, when her back is higher than her ends, not often met with except when a ship is aground and breaks her back.

The *Flare* is the overhang of the top decks compared to the waterline: a slope outwards from the waterline at the bow, particularly prominent in the French liner *Normandie*, where special precautions have to be taken to prevent tenders and other small craft from coming too close and becoming jammed between the waterline and the top overhang. Also very prominent in H.M.S. *Hood*, where a perpendicular dropped from the upper deck would be on a level with the outside of her torpedo-bulge.

The flare makes anchor work difficult and in the *Normandie* there is a special hole cut in the hull near the stem to enable a look-out man to see what is happening.

A ship is divided horizontally into one or more *Decks* and in most cases only continuous decks are referred to in descriptions of ships; the lower ones naturally have to be broken up for engine rooms, cargo spaces and for heaps of other reasons.

The naming of the decks to-day is rather confusing as some steamship companies number them only, starting with "A" as the bottom deck and working upwards, others reverse the process, others again number them up to a point and then give the top decks names such as Sports, Sun or Boat decks.

Strictly speaking the *Main Deck* or *Tonnage Deck* is the second continuous deck from the bottom, that below being the *Lower Deck*, and the topmost continuous deck is the *Upper Deck*.

Decks or part decks below the lower were termed *Orlop* and *Lower Orlop*, probably from the Dutch word "Overloopen," which means "to overlap."

### The hull proper ends at the Upper Deck.

In the old wooden ships there were raised platforms or castles at bow and stern above the topmost deck, and these sometimes reached ridiculous proportions; they were used to accommodate fighting men and were known as *Forecastle* and *Aftercastle* respectively.

The aftercastle has disappeared and the only reminder is, that in warships, the cleaning utensils, such as buckets and brooms, in the neighbourhood of the quarter-deck which superseded it, are marked A.C. (After Castle).

The forecastle or fo'e'sle survives to-day, although very much lower, and it is traditionally the living quarters of the seamen although in some modern ships the tendency is to house them amidships or aft—a much better method as the forecastle is cramped and it is the first part to suffer damage as the result of a bow collision.

A *Top-gallant Forecastle* is sometimes used to indicate the raised forecastle, the latter word being used in such case to mean the fore part of a ship.

In the old wooden warships a deck was built up from the mainmast aft and this was called the *Half-deck*; above this again, running a quarter of the length of the ship, was the *Quarter-deck*, a name still given to the aft part of a warship; raised above the after end of the quarter-deck was the *Poop*, the name still given to the raised deck



## Parts of a Ship

aft in a merchant vessel, although the modern poop is very much lower and is immediately above the upper deck.

In the centre of a modern merchant ship is probably built another light deck called the *Bridge Deck* and not to be confused with the *Navigating Bridge* which runs *across* the ship above the topmost deck of all.

A ship without any raised portions above the upper deck is known as a *Flush Decker*, and one with raised forecastle, bridge and poop is a *Three Island* type, and at sea from a distance, perhaps only the three raised portions are visible.

There are ships with variations of these, such as with a long or short bridge, with a poop and bridge combined or with a forecastle and bridge combined, and they can be seen on the drawings on page 173.

Some kinds of ships are more suitable than others for different trades and the following are a few of their uses:—

*Single Deckers* (with short bridge) are especially suitable for deadweight cargoes such as iron ore, coal, etc., as the primary object is quick loading and unloading, usually direct from one port to another, and large hatches are provided which facilitate easy handling.

*Single Deckers with Shelter Deck.* Shelter deck is constructed on the main deck with tonnage openings in the superstructure, thus rendering it free from tonnage measurement as being not *permanently enclosed*; frequently referred to as “open shelter deckers” to distinguish them from vessels, principally during the war, which had the openings closed to enable them to be granted heavier draught and thus to carry more cargo.

*Long Bridge Type.* Useful when a large cubic capacity is required, such as for the carriage of light cargoes like grain, etc.

*Two Deckers* (or ships with more than two decks). Generally useful when it is necessary to discharge cargo at various ports *en route*, where many different cargoes



are carried or where pressure on cargo at bottom of holds has to be avoided; favoured largely by owners of cargo liners engaged in the Far Eastern trades.

Above the bridge deck in passenger liners are built the passenger decks, such as *Promenade*, *Upper Promenade* and *Boat Deck*.

*Spar Decks*, *Awning Decks*, *Weather Decks* and *Hurricane Decks* are all lightly constructed (that is to say lighter than the main hull) decks above the upper decks.

A ship is divided perpendicularly by numerous partitions running from side to side, called *Bulkheads*, having water-tight doors in them which can be automatically closed in an emergency.

A well is strictly speaking a hollow cut out of a deck, allowing a deck to be dropped below the general level, called a *well deck*, but generally speaking, the hollow between the forecastle and bridge, or between bridge and poop, is referred to as the well.

### FITTINGS.

In the hull of a ship on either bow is cut a hole called the *Hawse-hole* (pronounced horse), into which the anchor is drawn, the cable passing through the *hawse pipe* to a piece of machinery called a *windlass* in the Merchant Navy and a *capstan* in the Royal Navy.

The cable passes from the deck to the *chain-lockers* on the *cable-deck* through a *Navel-pipe*.

There are various shapes of hawse pipe and most very large modern liners have a spade-shaped one.

Anchors to-day have no stock and can therefore be hauled up close inside the hawse hole.

The anchors on the bow are called *Bower-anchors* and are the heaviest, weighing anything up to sixteen tons each; some large ships have a third projecting from

## Parts of a Ship

a hole in the stem and all large British warships have a second abaft the starboard bower and these are called *Sheet* or *Spare-anchors*.

Some ships have still another anchor projecting from a hole in the stern for purposes of preventing the ship from swinging with the tide, and this is a *Stream-anchor*.

*Kedge-anchors* are small anchors used especially in small-boat work and for warping purposes.

A ship is said to be *anchored* when one anchor is down and *moored* when both are down, or when tied up to a buoy.

A ship is *under weigh* when her anchor is clear of the sea-bed and not necessarily when she has any movement on her; thus a ship can be under weigh but with no way on her, a slightly confusing phrase.

Next come the masts, the first two of which are known as *Fore-mast* and *Main-mast* respectively; the third mast is the *Mizen*, although the term probably originally meant a small fore and aft sail; the fourth mast is the *Jigger*.

Some of the sailing ships have more than four masts, the American fore and aft schooners being known to carry as many as seven, but what names are given to all these is controversial and the best way is to call them by the days of the week.

Above the lower mast is a *top-mast* which may be capable of being lowered either by "striking" or by the fact that it is telescopic and slides into the lower mast, many large ships having lower and top masts made in one long piece of steel.

In the days of sail, and still often seen in warships, is the *Top-gallant*, which took its name from the old hemp rings called garlands ("gallants") through which the shrouds of the upper masts were rove to prevent chafing.

On the masts above this came the *Royal-mast*.

In place of the old fighting tops a modern warship has control and range-finding towers.

The *Truck* is the extreme top of the mast, which in a battleship of the *Royal*

*Sovereign* class is about 170 feet above load water-line and in the liner *Queen Mary*, about 230 feet above the keel.

The *Gaff* is a spar set at an angle of about forty-five degrees from the main mast in modern steamships, and the extremity is called the *Peak*, from which ensigns are usually worn at sea.

A small mast or staff in the bows is called the *Jack-staff*, meaning that it is for the purpose of flying a "jack" or small flag, or that it is itself a small staff—the word "jack" being a maritime diminutive.

A similar but larger staff in the stern is called the *Ensign-staff* and, as its name implies, is for the purpose of displaying the national flag.

The rigging holding the masts in position is known as the *Standing-rigging* and consists in modern vessels principally of a *fore-stay* leading from top of foremast to stem, *back-stay*, from top of mainmast to taffrail or stern, and shrouds which come down on either side to the deck level and are so termed because they shroud or obscure the mast, being much more numerous in the days of sail.

There are other stays but they need not be mentioned.

The rigging from the yards for signalling purposes are termed *Halyards*.

The rigging used for the purposes of handling sails is known as *Running-rigging*.

In addition to masts there are tall posts to which are fixed additional derricks, and called *Derrick-posts* or *Samson-posts*, the tops of which are often ventilating cowls as well.

At the extremities of the navigating bridge are shelters called *cabs*, and in the centre of the bridge, and above or below, are the *Chart-house* and *Wheel-house*.

In warships there is a series of bridges such as signal bridge, navigating bridge, flying bridge, on or between which, are built range-takers platforms and numerous other platforms for searchlights or anti-aircraft defence, and the practice lately has been to enclose all these bridges in a steel outer cover to protect them, and so we find the huge central tower as fitted in the British *Nelson* and *Rodney*.

## Parts of a Ship

Developments in masts have been turning a complete cycle as far as steamships are concerned; when the first all-steam warships were introduced, they carried one very heavy mast; this gave way in cruisers to lighter pole masts and in heavy ships to the tripod which is a heavy central mast with two heavy struts sloping forward at an angle of about forty degrees; the culmination of this was the many-strutted, pagoda-like mast, with endless platforms, such as in the Japanese ships and the central shot-proof tower of the *Nelson* class. Recent ships have discarded the tripod and reverted to a light wooden mast which reduces both weight and size of target presented to the enemy.

The United States Navy originated a lattice-work affair called a "*Cage*" or "*Basket*" mast, and a modified form was introduced in the Imperial Russian Navy, but this was found unsuitable both owing to the "whip" caused by high speed and on account of the vibration throwing out all navigational and gunnery control instruments.

When the American battleships were re-constructed in recent years the British tripod form was substituted in most cases.

Some modern cargo ships have masts called *Goal-post*, *Football* or more technically, *Twin-masts*, that is, masts set side by side to look like goal-posts, and to these can be attached a great number of cargo-lifting *Derricks*, which name has rather a gruesome origin; an Elizabethan hangman called Derrick being apparently the first man to rig his gallows with a single spar, using the rope which was the only thing officially allowed him, as a lift.

In a battleship there is a very heavy derrick, stowed fore and aft in a horizontal position, attached to the mainmast for purposes of hoisting in and out the heavy sea-boats; during the recent years of economy, whenever power has been required for working this main derrick, it has been switched off all the lighting, and so plunged the ship into darkness. This derrick runs to 65 feet in length and is nearly two feet in diameter.

## Ships and the Sea

Athwartships across the masts are the *yards*, nowadays only used in steamships for signalling purposes or for wireless aerials, but used in the square-rigged sailing ships for attaching the sails and the extremities of which are called *yard-arms*, to which they used to string-up offenders in days gone by. In battleships their place is taken by *outriggers* from the control tops.

A *table-top* is the top of the lower masts in merchant ships to which are fixed the pulleys and blocks for purposes of taking the tackle from the cargo derricks.

In the early ships the top was actually the top of the mast from which fighting men used to shoot arrows and other unpleasant missiles at the enemy, but by degrees, first a flag staff and then a mast, was rigged on this top and it soon found itself very low down on the mast.

The *Crow's nest* is a platform with a protective shield of metal or canvas high up on the foremast for the purpose of providing shelter for a lookout-man; it is sometimes completely roofed-in, or covered, and is in telegraphic or telephonic communication with the navigating bridge.

The *Docking bridge* is a navigating bridge on the poop or abaft the midships superstructure and is used for bringing the ship into port, or for going astern.

*Rake* is the term given to the slope or inclination of funnels and masts from the perpendicular.

On the boat-deck are the ship's lifeboats, each of which is kept stocked with provisions, flares, oil, oars and other necessities. Many large liners carry power-driven boats only, and all ships over a certain size must have one or more such craft for towing purposes, and they must be fitted with wireless.

The first boat on either side is called the *accident boat* in the Merchant Navy, it is usually much smaller than the remainder and is kept swung out for emergencies.

In the Royal Navy there is always one or more *sea-boat* slung out for the same purpose.



## Parts of a Ship

These boats now have their regular crew but in sailing ship days the boat was manned by anyone who happened to be nearest it at the moment and there is a yarn that on one occasion when the crew were aloft furling sails, a man was seen by the officer of the watch on deck to fall; he immediately shouted "Man overboard," and sent away a boat to pick up the victim.

After sculling around for some considerable time without finding any trace of the man the boat returned with a very dejected-looking crew.

The roll was called to find the identity of the missing man and to everyone's astonishment all were present. It transpired a little later that the man who was seen to fall, only fell a little way and hearing the cry "Man overboard" he immediately continued his descent to the deck and was one of the first to man the sea-boat, little guessing that he was pulling about looking for himself.

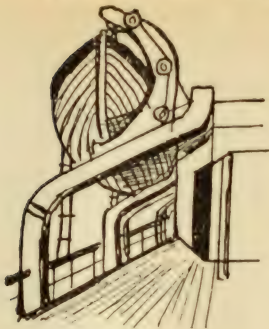
After the *Titanic* disaster in 1912 more stringent regulations regarding the provision of life-saving appliances were enforced and lifeboats had to be provided with seating capacity for the entire crew and passengers; the problem was, where to stow the boats, so sometimes they were on runners right across the ship, later they were nested, one inside another and extraordinary boat-handling gear was invented for dealing with them all.

The things used for hoisting boats are called *Davits* (pronounced dayvits), and in most ships they are either *goose-necked* or *swan-necked*, the older style, or consist of an elaborate lattice-work contraption which is rather unsightly, but nearly all the latest ships have one or other system of *gravity davits* and the boats are hoisted high with head room beneath.

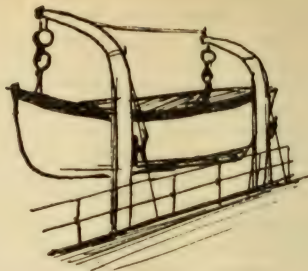
The gravity type consists of heavy uprights and the boat rests in a sort of cradle on wheels which run in grooves up and down these uprights.

The problem of boats has always been a difficult one because it is one thing to provide sufficient and quite another to be able to launch all or any in case of disaster

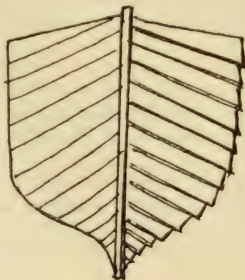
TYPES OF BOAT DAVITS AND SMALL BOAT CONSTRUCTION



*Gravity Davits.*



*Goose-neck Davits.*



*Carvel build.*

*Clincher build.*



when, at the best of times, there is bound to be a certain amount of confusion, especially if the electricity, on which the lighting and auxiliary power of the ship depends, fails at the critical moment; launching a boat from a great height in anything of a sea is not a simple task even if the ship is not in distress but if she is sinking, listing heavily, or going down by bow or stern, the position is rendered infinitely more difficult, particularly if it is night time.

Boat drill has to be carried out by law, as it should be, and Board of Trade officials have, as one of their duties, to come on board before a passenger liner sails from a British port and satisfy themselves that the boats are in good condition and that the gear is efficient and capable of fulfilling the purpose for which it was designed.

Boats are lowered regularly during the voyage and passengers have to take part in boat-drill, that is to say, they have to appear in lifebelts alongside the boat station to which they are allotted and the number of which is posted in every cabin. The efficiency of the crews is beyond reproach and a boat can be lowered in a very few minutes, which is very different from even a few years ago when boats used to be painted resting in their chocks or cradles on deck and on more than one occasion when emergency arose it was found impossible to move them.

The unfortunate thing is, that an increasingly large number of passengers object to this boat-drill and make themselves very unpleasant, refuse to attend, deliberately obstruct the officers in their duty and scoff at the entire proceeding; perhaps it would do such people a world of good if they were suddenly confronted with stark reality.

Life-boats and other small boats are usually constructed on one or other of two methods:—

*Clinker-built* boats, in which the planks run fore and aft, with the lower edge of one plank overlapping the upper edge of the one below like the slates on a roof.

*Carvel-built*, in which the outer thickness is worked so that the edges of all planks are flush, and this method is principally used for power boats.

A *Cat-davit* or *Anchor-davit* is a small crane or davit in the bows for purposes of assisting in the stowage of the anchor; called a cat because the end of it probably used to have a carving of a cat's head.

*Funnels* are the principal or most prominent deck feature in most modern ships, although the tendency even in steamships is to reduce the number, three being the largest number fitted to any merchant ship now.

This is principally due to the modern developments requiring less space for boiler rooms, uptakes and funnels, or smokestacks, as they are sometimes called.

There was a time some years ago when the number of funnels was considered an indication of a ship's power and speed, and more than one case is recorded in which passengers refused to sail in ships with only one funnel, particularly as most shipping literature represented ships with at least four towering stacks.

Natives were particularly impressed by funnels.

Some of the old French cruisers had six funnels, grouped in threes with a space between, and the famous Russian cruiser *Askold* had five immensely tall thin ones and was nicknamed the "Packet of Woodbines" by British "tommies" who saw her during the war.

The pre-war *County* class cruisers had three huge funnels set practically upright but they were certainly not beauties.

The day of the four-funnelled liner is unfortunately nearly ended and the fashion set by *Mauretania* is out of date.

The introduction of the motor vessel led to the immediate reduction in numbers of funnels and the Scandinavian countries, which have large numbers of motor vessels, have practically dispensed with funnels altogether.

A reaction to the abolition of funnels set in some years ago and many ships had a dummy funnel added to enhance the appearance and this was sometimes used as a ventilator, as in the case of *Empress of Britain*; both *Olympic* and *Berengaria*

## Parts of a Ship

have dummy funnels. British motor vessels never entirely dispensed with them but introduced a new fashion for a short thick funnel with a straight top.

Recently, however, funnels or dummies have tended to disappear again, because more deck room is allotted to deck sports and games and the prevailing fashion seems to be to have one large funnel amidships.

The disappearance of funnels would be a disaster from the æsthetic point of view and a mistake from the business side, because one of the principal features in the recognition of ships and therefore of the company to which she belongs, would go—surely a move in the wrong direction.

Some funnels have what look like squash hats on them, and this is usually formed by an inner and outer casing or by a prominent rim to the top; such are termed *Admiralty-topped* or *Cowl-topped*.

Many large funnels are elliptical, flat-sided or pear-shaped and the funnels of *Normandie* slope out on either side near the base and like the *Queen Mary's* they are of unequal height.

When *Bremen* and *Europa* first came out their funnels were 15 feet shorter than now, the extra portion being added because the smoke did not clear the decks at high speed and with a head wind; funnels have often been raised for the same reason in warships.

Some funnels have smoke dispersing shafts or ventilators near the tops as in the *Italian Rex*.

In many warships of great power and high speed the funnels were placed too near the masts, or the other way about if you prefer it, and in consequence the bridges and control tops became almost uninhabitable and got burnt out.

To remedy this, funnels were "trunked" together, as in the *Queen Elizabeth* class, and in many others, the most outstanding example being the United States aircraft carriers *Lexington* and *Saratoga*, which have their seven uptakes all trunked into one gigantic funnel casing.

## Ships and the Sea

Some ships had the top of the funnel only, curved back, others had clinker screens put on and there is in existence at present the most weird collection of funnels ever seen.

Funnels in some of the down-river pleasure steamers are telescopic, to enable them to clear the bridges over the Thames.

Some of the ships using the Manchester Ship Canal have the funnel top taken off at the entrance and pick it up again on the return journey, and they can be recognised by the funnel platforms or galleries called *cat walks* running round about half way up.

Last of the principal fittings come the ventilators and these again are tending to disappear in their old form; they certainly monopolised most of the deck space, but the great cowls in a row as in *Mauretania* and *Aquitania* had a distinct charm, and here again the painting of the inside of the cowls formed a useful point of recognition, some companies favouring red, some blue, others white and so on.

The Cunard ventilators were particularly attractive, being rather thick and with immense cowls.

The *Berengaria* has some large square ventilators and so has *Queen Mary*.

New systems of ventilation have come along and rendered these cowls largely unnecessary and their place is being taken by fans and by utilizing one or more of the dummy funnels.

Warships mostly have what are known as *mushroom-vents*, and they are very short rounded-top fittings quite close to the deck.

Another class of ventilator to provide air to the ballast tanks is the *Goose-neck*, situated near the scuppers.

The number of persons carried in a ship is known as her *Complement*.

## CHAPTER XI

# Engine-Room and Machinery

**T**HIS is not the place to advance arguments regarding the merits or demerits of the different types of engines in use, and the following explanations are merely intended to give some idea, in a non-technical form, of the various terms mentioned in this book.

There are, generally speaking, three distinct systems in use to-day:—

1. STEAM.
2. MOTOR.
3. ELECTRIC.

### Steam Engines.

There are three principal systems of steam propulsion:—

1. RECIPROCATING ENGINES.
2. TURBINES.
3. COMBINATION OF RECIPROCATING AND TURBINE.

RECIPROCATING ENGINES are the most common, and do not vary greatly in principle from the earliest form of steam engine.

They are non-rotary, and consequently occupy more space than turbines.

When steam passes from one container or cylinder where it is under HIGH PRESSURE (H.P.) to another where it is submitted to LOW PRESSURE (L.P.), it expands, and

its velocity depends upon the difference in size or pressure between the two cylinders.

Consequently, the more the steam can expand the greater the power becomes.

In COMPOUND ENGINES there are two or more cylinders as above mentioned.

In TRIPLE EXPANSION, power is exerted in three stages, the steam passing through an intermediate cylinder after leaving the H.P. and before entering the L.P. cylinder.

In QUADRUPLE EXPANSION, power is exerted four times, usually passing through two intermediate cylinders before entering the L.P.

TURBINES. In a turbine, steam, instead of being generated in a cylinder, is played on to countless blades or vanes fixed to a rotary drum, which is attached to the main shaft.

In other words, in appearance a turbine is a cylinder to the outside of which are fixed thousands of blades at right angles or thereabouts, and the steam playing on to these blades causes the cylinder to rotate.

As turbines are enclosed by outer casings in a ship's engine-room they are not very interesting things to look at, and have not the fascination of the "up-and-down" reciprocating engines.

There are two distinct kinds of turbine, *impulse* and *reaction*; in the first the pressure is played from the outside on to the blades and in the other the force is from within.

GEARED TURBINES. To obtain maximum efficiency a turbine should run at high speed, but to obtain maximum *propeller* efficiency much slower speeds are necessary.

To attain this end without losing any power, reduction gears are placed between the turbine and the ship's screw.

Turbines can be either single or double reduction geared.

Turbines have several advantages over the reciprocating engines, among them being the following:—



## Engine-Room and Machinery

Much greater power can be obtained, and for this reason they are in use in all high-power vessels, such as giant transatlantic liners and warships.

There is less vibration, and in consequence of there being fewer working parts, they are more economical.

They occupy much less space in the engine-room, and on account of being placed well down in the bottom of the ship they are particularly suitable for war vessels as being less likely to be damaged by shell fire.

As an offset to these advantages, one of the greatest reasons for their not being in wider use is owing to the fact that they are not economical when run at slow speeds; but as so many of the cargo liners now find it necessary to steam seventeen to eighteen knots in order to keep pace with existing conditions, their adoption is becoming more general.

COMBINATION OF RECIPROCATING AND TURBINE ENGINES. In recent years, owing to the increasing need for economy in all directions, many devices have been introduced with a view to utilising the exhaust steam from ships' engines and putting it to further good purpose. Among these are the following:—

The *Bauer-Wach* system of an exhaust steam turbine fitted to existing reciprocating engines has shown a very considerable saving in fuel, in some cases as much as eighteen to twenty-five per cent.

This system enables the energy in steam exhausted from the low-pressure cylinder to be used again for propelling purposes.

For medium-sized vessels this combination enables a very high economy in fuel to be effected with very little increased expenditure over plain reciprocating engines.

The *Caprotti Valve* gear enables highly superheated and high-pressure steam to be used again, and savings of ten per cent. have frequently been effected.

Many ships in the service now have oil-fired boilers instead of coal, and some burn pulverised coal, either carrying their own crushing plant on board or shipping it in the pulverised form.



### **Motor Ships.**

At the present time motor or internal-combustion engines burning heavy oil are much adopted, and about one-tenth of the world's merchant tonnage consists of motor-driven vessels.

There are several forms of motor engines, the Diesel being perhaps the best known.

The principle is practically the same as in a motor car, that is to say, the motive power is derived from a succession of minor explosions.

There is no doubt that in certain trades the motor ship is the more economical, and although the initial costs are very much higher than for steam engines of the same power, the running costs are much lower, less labour being required and more constant speeds maintained.

### **Electric Drive.**

A comparatively recent introduction in the British Merchant Navy is the electric-driven ship.

**TURBO-ELECTRIC.** A vessel driven by electricity which is generated by steam turbines or as an intermediate stage to the adoption of complete electric drive the exhaust steam is sometimes taken from reciprocating engines to a turbo-generator which feeds a motor on the same shaft.

This supplementary power is particularly useful for astern purposes.

**DIESEL-ELECTRIC.** A vessel driven by electricity generated by Diesel motor engines, and usually of less power than the former.

In the same way that turbines are now used in combination with reciprocating engines, as described above, an increasing number of vessels are being fitted with exhaust-turbo-electric gear, the most popular being the Metropolitan-Vickers system.

This secures either an increase in speed for the existing fuel consumption or a lesser fuel consumption for the same speed.

## Engine-Room and Machinery

To sum up, certain types of machinery are undoubtedly more suitable for ships engaged on some services than on others, and where it is essential to have the highest power, steam turbines are unquestionably the best.

Similarly, where no great speed is required, the reciprocating engine is the more economical.

More than thirty per cent. of the world's tonnage now uses oil fuel, whether in steam boilers or in internal-combustion engines, and one ton of oil generates the same horse power as 1·6 tons of coal.

A great impetus to oil was given after the war, when, owing to frequent strikes in the coal industry, the supply of coal was uncertain and the cost high.

Oil fuel has certain advantages over coal, among them being cleanliness and ease of bunkering, consequently allowing quicker turn-rounds and the saving of valuable time, and allowing reduced engine-room staffs, and steadier steaming, as the pressure is so readily adjusted.

Against these advantages must be placed the following:—

Oil is higher priced than coal, and as regards the British Empire the fact that about one-third of our merchant ships burn oil in one form or another, as well as all the ships of the Royal Navy, and that our mechanised Army and our Royal Air Force are likewise dependent upon oil brought from overseas, makes the outlook very disquieting.

Great strides have been made in recent years, not only in obtaining oil from British coal, but also with systems of burning pulverised coal, and it is hoped that the adoption of this on a large scale will once more make our ships independent of foreign goodwill and replace one of our basic industries on a truly prosperous basis.

Although coal has given way in so many cases to oil, the improvement in modern machinery has effected enormous savings in fuel in cases where coal is still used.

Either less fuel is required to maintain a certain speed or if the same amount of

coal is burned, considerably greater speeds result. The same horse-power can be attained to-day with less than one-sixth of the fuel required eighty years ago.

It is interesting to recall the enormous quantities of coal consumed by the very early steamships and by the giant Atlantic liners before they were converted to burn oil.

It is curious that for no apparent reason certain ships become veritable demons in their insatiable demand for fuel and sometimes two sister ships will require very differing quantities; sometimes ships otherwise efficient and good have been sent to the scrap heap simply because they cannot be run economically. Warships which eat fuel are an obvious handicap because they constantly have to put into bunkering stations and so have not a large radius of action, and merchant vessels which demand vast stocks of coal are not only uneconomic because they eat their owners out of house and home, but because they also demand more space for bunkers and in consequence there is less cargo carrying or earning capacity.

In the old days before the introduction of compound engines the fuel consumption was vastly greater and we find that the *Scotia*, a Cunarder of 1863, ate up 160 tons daily as against the *Spain*, of 1871, a considerably larger ship fitted with compound engines and with the same approximate speed, which consumed about 50 tons daily.

The record-breaking *Mauretania* had a coal bunker capacity for 7,000 tons and she consumed about 800 tons daily, but this was because of her enormous speed and it is speed which eats up the fuel, in fact, the fuel burned varies as the cube of the speed attained.

**Horse-Power.** One horse-power (H.P.) is the amount of force required to move 33,000 lb. 1 foot in one minute, or contrarily, the force required to move 1 lb. 33,000 feet in one minute.

**BRAKE HORSE-POWER (B.H.P.).**

## Engine-Room and Machinery

**EFFECTIVE HORSE-POWER (E.H.P.).** Is the actual amount of power consumed in the propulsion of the vessel, sometimes referred to as Tow-Rope Horse-Power, as it is equal to the amount of power which would be transmitted through a tow rope; in order to overcome the loss of power caused by propeller friction, working of auxiliaries off main engines, etc., a much greater power than E.H.P. must be generated by the engines, and this is known as—

**INDICATED HORSE-POWER (I.H.P.).**, this being the actual amount of power generated by the engines as shown on the indicator. For purposes of rough calculation, the E.H.P. may be said to vary between fifty and sixty per cent. of the I.H.P.

**NOMINAL HORSE-POWER (N.H.P.).** This is the power shown in the ships' register, but it is of no great value in showing the actual power, as it is usually only about one-sixth of the I.H.P. or full power of a ship.

**SHAFT HORSE-POWER (S.H.P.).**

The increase of horse-power needed to raise the speed very slightly beyond a certain figure is staggering and the British *County* class cruisers provide a good example; the later ships of the class were given 10,000 additional Shaft Horse-Power in order to increase the speed by half a knot, up to thirty-two, and to increase speed of a large ship from twenty-eight to thirty knots (i.e. seven per cent.), an increase in power of twenty-one per cent. is needed.

His Majesty's battle-cruiser *Hood*, the largest warship in the world, consumes at her full speed of thirty-one knots, over 1,400 tons of oil daily to drive geared-turbines of 144,000 Shaft Horse-Power.

The French liner *Normandie* has a horse-power of 160,000 and this will probably be exceeded by the Cunard-White Star *Queen Mary*. Compare this to the 425 horse-power of the first Cunarder in 1840.

The object of all this complicated and massive machinery is naturally to turn a *propeller shaft* which in its turn rotates a screw and so drives the ship through the

## Ships and the Sea

water, but the thrust of the screw if left unchecked would have the effect of pushing the engines out of the ship, and when the engines were going astern the effect would be to drag the entire machinery out of the ship, and so a thing known as a *thrust block* is inserted to transfer this propeller thrust from the engines which are attached to the shaft, to the hull.

The end of the propeller shaft attached to the screw is called the *tail shaft*, and where this leaves the hull of the ship and enters the sea, is a kind of washer termed a *stuffing box* which prevents the entry of any water into the tunnel. A broken tail shaft has frequently proved the undoing of ships and is a very serious matter because free access is accorded to the hull itself for the inflow of water; the falling off of a screw itself is not a dangerous matter if a vessel is not dependent upon one alone, and one well-known ship used to have a habit of leaving her screws dotted about in various harbours of the world.

Everyone should make an opportunity of paying a visit to the engine-room of a ship although no one other than an engineer will come away the slightest bit wiser than before he went in. Your brain will either be in a whirl, staggered by all the weird and wonderful outfit of the underworld, or else you will be awed by the almost cathedral-like immensity, calm and cleanliness of it all, but of one thing you can be certain and that is that as you return up the steel ladder or are ushered into the elevator that brings you back to civilization, you will hold a very much deeper respect for the engineering staff than you ever held before.

Try and pay your visit in heavy weather when the steel floor heaves beneath you and you find yourself in imminent danger of being dashed against some strange and unfamiliar shape and imagine what it is like in the engine and boiler rooms of countless small craft fighting their way through the same seas that cause your ship to roll a bit; picture a destroyer pitching, plunging and reeling in turns, screw in, screw out.



## Engine-Room and Machinery

You are probably feeling far from well up top-sides, what do you think it feels like down below?

### NUMBER OF VESSELS IN WORLD'S MERCHANT FLEETS USING VARIOUS TYPES OF MACHINERY.

*Reciprocating Engines* (and combination of turbine and reciprocating), 22,000 vessels.

*Turbines* (and turbo-electric), 1,300 vessels.

*Motorships* (and diesel-electric), 3,900 vessels.

*Steamers burning oil fuel*, 3,900 vessels.

In addition to the main engines the engineering department is responsible for the power supply to all the auxiliary machinery for working cargo booms, supplying bath water and electricity for cooking purposes and lighting.

The *donkey-boiler* does a great deal of this work and speaking of boilers reminds me that I have forgotten to mention that there are two kinds of boilers in use in ships at the present time, the *fire-tube* and the *water-tube*, and the latter is in more general use, especially in high-powered ships.

In the fire-tube or Scotch boiler, the fire is led in small tubes through a boiler filled with water, whilst in the water-tube boiler, the process is reversed—the water being taken in small tubes through a fire.

The engine-room in a steam merchant ship is divided into three compartments, the *stokehold* or *boiler-room*, the *main engine-room*, and the *electrical plant*.

In a steamer burning coal the stokers work stripped to the waist, but in one burning oil, the engineers wear spotless white uniforms and adjust the heat by turning on and turning off taps.

There are two systems of draught to a boiler-room, *induced* or *natural*, and *forced*, the former being in use in most merchant vessels and relying upon the natural draught

## Ships and the Sea

through the funnel and this is why certain ships trading to tropical seas have, or used to have until modern systems of fans helped things, such lofty funnels, particularly noticeable being the older Bibby and Blue Funnel ships.

In forced draught, fans are relied upon altogether and the boiler-room atmosphere is kept at a higher pressure than the outside air, and has to be cut off from the outside by two doors with a space between, this forming an *air-lock* and allowing one door to be shut before the other is opened; if both were opened at once there would be a "blow-back" and burning oil or fire would shoot back from the boilers into the boiler-room and destroy all life in its way; this happened in some of our very early destroyers.

When steam has been utilized it passes into a *surface condenser* which contains small tubes; the steam passes through these tubes and is kept cool by a constant flow of cold sea-water, passes into a hot-well and from thence it begins its circuit all over again.

The sea-water, when it has done its job, is thrust back into the sea and is called the *main-discharge*, and often shows to effect in photographs of ships like a small cataract near the waterline; incidentally this is about the only way in which a turbine ship can be distinguished from a reciprocating, from outside, because in the former, the water comes out in a steady flow whilst in the latter it comes in a series of jerks because the pumps which work this discharge are attached to the cross-heads of the engines, which go up and down.

By the *starting platform* in the engine room is a bewildering mass of gauges, dials and clocks, and when the commands come through from the bridge telegraphs they are checked back and recorded on a blackboard for ultimate transference to the engine-room log.



## CHAPTER XII

# Tonnage

IN speaking of the tonnage of a ship, confusion often arises unless one keeps in mind the class of ship to which reference is being made and unless one has a clear understanding of the various kinds of tonnage in use.

The word ton or tun is believed to have originated as a measure of a ship's capacity from the days when the principal cargo between the Continent and this country was wine, which was carried in barrels or tuns; each of these tuns held about 250 gallons and occupied a space of approximately forty cubic feet.

This is borne out by the modern use of a Freight Ton, sometimes used by wine-shippers.

The tonnage of a merchant ship of Tudor times averaged round about 200; some fighting ships of the same period reaching as high as 700.

The *Stuart Sovereign of the Seas* was of 1,500 tons.

*Victory* boasts a little in excess of 2,000 tons and the largest merchant sailing ship is round about 3,000 tons gross.

To-day the largest liners reach about 80,000 gross tons, and *Hood*, the largest war-ship, about 40,000 displacement.

Confirmation that the word ton is derived from the tun of wine is found in a letter still in existence, in which some Spaniard offered to sell to King Henry V of England two carrack ships of the tonnage of 1,400 and 1,600 butts respectively.

By an Act of Parliament passed shortly after this it was enacted that the tun of wine was not to measure less than 252 gallons (old English measurement).

A cubic foot measures  $6\frac{1}{4}$  gallons and therefore the internal capacity of the tun of wine was just over forty cubic feet; add the cask itself and we get about forty-two cubic feet.

Two hundred years later we find that an ordinance of Louis XIV of France fixed the ton of shipping as being a capacity of 42 cubic feet, and thus the freight ton of round about 40 cubic feet, still used by wine shippers, had its origin.

GROSS TONNAGE is a measure of *cubic capacity*; 100 cubic feet of *permanently enclosed space* being equal to 1 gross ton, i.e. hull, passenger accommodation, deck-houses, etc.

*Merchant Ships are always measured on this basis.*

The United States measurement includes every enclosed space, but the British register makes certain exceptions, such as wheel-house, aft steering-house and cook-house, and consequently American ships often seem to be larger than British, whereas actually they may be smaller. This was particularly the case with the American liner *Leviathan*, which was claimed to be the largest vessel in the world; measured on the United States basis she had a tonnage of 59,957 as compared with the British *Majestic's* 56,551, but when the Americans were confronted with a financial crisis a few years back and they cut expenses to the bone, their ships were re-registered and *Leviathan* now stands at 48,942 tons.

The gross tonnage of a ship, being the cubic measurement, it naturally varies according to the form and shape of the ship as well as the size, some vessels having fine lines and others full, etc., but as a very rough working basis the gross tonnage may be estimated by multiplying the length by breadth by half breadth and dividing by ninety-four.

NETT (OR NET) TONNAGE is the gross tonnage less certain deductions on account of non-earning spaces, e.g. crew space, engine-rooms, water-ballast compartments, etc. *The total earning capacity of a Vessel.* Dock, port, and harbour charges are all

## Tonnage

payable on nett tonnage. Tonnage openings in a ship's side are for the purpose of reducing the nett tonnage, as such spaces are then not "permanently enclosed."

A tug has practically no nett tonnage because almost all of her cubic capacity is taken up by her powerful engines and boiler spaces.

**DEADWEIGHT TONNAGE.**—The actual weight in tons of cargo, fuel, and ballast that a ship carries when down to her load-line. Such tonnage varies according to season, e.g. Tropical Deadweight of a vessel, 8,800 tons; Summer Deadweight, 8,600 tons; Winter Deadweight, 8,300 tons.

It is interesting to note the proportions of deadweight to 100 tons gross in various classes of ships:—

*Liners* ( $16\frac{1}{2}$  knots and above), ratio is 55 tons deadweight.

*Intermediate Liners* (above 14 and under  $16\frac{1}{2}$  knots), 100·5 tons deadweight.

*Cargo Liners* (12–14 knots), 138·7 tons deadweight.

*Cargo Ships* (under 12 knots), 165 tons deadweight.

Actually, then, deadweight decreases as speed increases and increases as speed decreases.

**DISPLACEMENT TONNAGE.**—The actual weight in tons of the ship.

*Light Displacement.*—Without cargo and fuel.

*Load Displacement.*—With full cargo and full bunkers.

Termed displacement, as a ship or any body displaces, or pushes aside, its own weight of water.

*All warships are measured on this basis.*

Calculated by dividing the underwater volume of a vessel by thirty-five, there being thirty-five cubic feet of sea-water to one ton weight.

**UNDER-DECK TONNAGE.**—Gross tonnage below the main or tonnage deck (second deck from bottom in other than single-decked vessels).

## Ships and the Sea

REGISTERED TONNAGE.—The same as “Nett Tonnage,” unless specially stated.

FREIGHT TONNAGE.—Sometimes used by merchants or shippers among themselves when chartering steamers; 1 freight ton equals 40 cubic feet of cargo space.

PANAMA CANAL TONNAGE.—Special measurements on which charges are made for vessels proceeding through the Canal; varies considerably from that for other purposes; thus, a vessel of 4,600 gross tons and 2,800 nett, would be calculated as being of 6,200 tons gross and 4,600 nett for Panama purposes.

SUEZ CANAL TONNAGE.—Very similar to “Panama Canal Tonnage.”

THAMES OR YACHT measurement is used for measuring yachts, and is rather complicated: it is found by the following formula:—

From the length measured from fore side of stem to after side of sternpost on deck, subtract the breadth: multiply this result by the breadth and the result so obtained by the half-breadth and finally divide by ninety-four.

## CHAPTER XIII

# Ship's Papers

ONE often hears the phrase "Ship's Papers," and these are the important things which it is the duty of the Master of a ship to safeguard at all costs and to preserve if at all possible in the event of his ship meeting with disaster. An examination officer asks first of all for the ship's papers, and, if deemed desirable, confiscates them.

They include the following documents:—

*Certificate of Registry*, which is allotted to the ship after the completion of building, giving name, registered tonnage and other official details.

*Seamen's Contract or Articles*, which is the official contract between the owner or the ship-master and his seamen, setting out the conditions and obligations of service.

*Charter Party*.—If a ship is hired or chartered by anyone from the owner the latter grants to the charterer the right of using whole or part of his vessel for a specified voyage or period.

*Bills of Lading*.—The Master's receipt to the shipper of goods undertaking to deliver up the said goods on payment of freight, to the person or place named on the bill.

*Manifest*.—Full details of all the cargo carried, and its destination.

*Log Book*.—Official record of the ship and her career, giving all things affecting the ship herself, such as change of course, change of speed, weather conditions, performance of vessel and so on.

*Bill of Health*.—Is a certificate given to the Master by an official at her ports of departure or ports of call signifying the state of health of the population of

## Ships and the Sea

the town at the time; a *Clean Bill* indicates that no infection was raging; a *Suspected or Touched Bill*, that there was possibility of an infection, and a *Foul Bill*, that the place was infected.

These constitute the Ship's Papers so called, but there are innumerable other papers of varying degrees of importance which have to be completed.

When a ship arrives off a port she is visited by Medical Officers of the port who examine her Bill of Health, and if clean, if there is no infection on board, they grant her *Pratique*, or permission to proceed in. If doubtful, or a foul bill, the vessel is put in *Quarantine* or has to remain outside the harbour or port until all danger of infection is considered over.

Customs Officers come aboard and if all dues have been paid on dutiable goods and no smuggled goods are found they grant a certificate called a *Ship's Clearance Inwards* or *Ship's Clearance Outwards*, as the case may be.

In times of war the Master of a ship belonging to a neutral country is given, by the State, a document called a *Ship's Passport*, which is an official paper clearly setting out the vessel's nationality, ownership, trade, cargo, etc.

At every port visited, a tremendous amount of paper work has to be presented; lists of all passengers have to be prepared, showing who is landing, the full names, ages, descriptions, occupation, names of parents, number of passport, nationality of everyone on board; whether the ship carries any anarchist or evilly disposed person whose mission in life is to place a bomb in the bed of the head of the State and so on; these are required by the Landing Officials.

Similar details have to be prepared for every member of the crew, giving his official number on the ship's book, his rating and length of time that he has served in that ship or in any other ship.

In addition to these lists all passports have to be collected for presentation to the Immigration Authorities.



## CHAPTER XIV

# Stores in an Atlantic Liner

THE tremendous task of feeding passengers and keeping them satisfied, during a voyage is staggering, as many of them are on the look out for complaints. Figures for a giant Western Ocean ship are given because such ships are usually believed to be the most luxurious, but the stores required for an Eastern-bound ship, which probably takes six weeks instead of six days on a voyage, demand even more forethought.

In a ship like *Aquitania* the non-consumable stores themselves are vast; for instance there are about 100,000 pieces of earthenware, china and glass, 26,000 pieces of silver, and 100,000 pieces of linen, all of which have to be checked up and breakages replaced after every voyage.

Many passengers apparently imagine that their passage money entitles them to walk off with silver spoons or linen towels as souvenirs of the trip.

Every piece of linen has to be landed and washed between voyages, or, if the turn round is a very quick one, fresh supplies have to be taken in.

All milk and cream served in the ship is fresh and there are over 18,000 feet of refrigerated or cooling chambers.

Perhaps as many as 9,000 meals have to be served every day, and some of them run to half a dozen or more courses each.

Only a few of the stores can be given here, as a complete list would occupy too



much space and would be boring to any but a caterer or to a person who has ambitions of entering that trade.

The necessities alone, cutting out practically all the trimmings and luxuries, would be something like this:—

25 calves, 75 oxen, 145 lambs, 20 pigs, 110 sheep, 10,000 oysters, 1,200 lobsters, 4 turtles, 3,000 chickens, 500 ducklings, 280 turkeys, 450 brace of grouse, 450 brace of partridge, 450 brace of pheasant, 1,200 pigeons, 1,000 quails, 1,800 tins of sardines, 200 boxes of apples, 200 boxes of oranges, 600 melons, 60 boxes of peaches, 300 bottles of sauce, 700 tins of biscuits, 25 tons of potatoes, 1,700 quarts of cream, 2,000 gallons of milk, 1,800 pounds of sausages, 15,000 pounds of fish, and 60,000 eggs.

All this for about five days.

*Queen Mary* requires:—

20 tons meat, 20 tons fish, 70,000 eggs, 4,000 lbs. tea and coffee, 10,000 lbs. sugar, 30 tons potatoes, 4,000 gallons milk, 40,000 lbs. vegetables, 3 tons butter, 2,000 lbs. cheese, 600 crates apples and oranges, 4,000 chickens and ducklings, 10,000 bottles wine, 40,000 bottles beer and 60,000 bottles minerals.

## CHAPTER XV

# Classes of Ships

### Liners.

THE term *Liner* originally meant a ship which was employed upon a regular route or line as distinct from the "Tramp" which went all over the world and picked up a cargo wherever there was one to be had; to-day many ships are taken off their regular routes in order to go on pleasure cruises and some large ships are regularly employed on cruises and nothing else, but they can scarcely be classed as other than liners. The word has lost something of its original meaning and applies to any luxurious or large passenger carrier.

The passenger or mail liner is usually of considerable size and speed and can be easily recognised by her large number of passenger decks rising above the upper deck.

More and more of these passenger promenade decks are being enclosed by glass windows and the superstructure is generally very much heavier in appearance than was formerly the case.

The giant express liners of the Western Ocean are in a class entirely by themselves, both on account of their high speed and the extreme luxury of their internal decorations.

The term liner is usually taken to refer to vessels having a service speed in excess of sixteen and a half knots.

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### Intermediate Liners.

The greatest proportion of the passenger traffic of the world is carried on by intermediate liners, that is to say by ships which do not go much above 20,000 tons and which are less speedy than the larger type. Such ships are usually very much more comfortable and they often combine passenger carrying with large cargo capacity. The liners on the New Zealand service have very large refrigerated space, and a cargo deadweight of 13,000 tons is by no means uncommon in these intermediates. Japan has concentrated very largely on this class of ship and a Japanese liner of round about 10,000 tons gross compares very favourably in comfort and service to the largest of the fast liner group.

### Cargo Liners.

The cargo liner is encroaching more and more on the spheres of the general trader or tramp ship; generally speaking, a cargo ship may be distinguished from a passenger liner by the absence of decks above the upper deck and by her thicker masts and larger number of heavy cargo derricks and derrick posts.

The modern cargo liner may have a speed of fourteen knots or even more, and she very often carries passengers in considerable comfort, but no cargo ship may carry more than twelve without a special licence and then she encroaches on the intermediate liner.

Some of the best cargo liners have accommodation for their officers and crew all amidships, above the upper deck, and they often look like passenger ships in consequence; such ships are the *Beaver* class of the Canadian Pacific and the motor ships of Furness Withy.

Among the cargo liner class are ships entirely built for the carriage of frozen or chilled meat, such as the well known ships of the Blue Star Line, which may have up to 700,000 cubic feet of insulated or refrigerated space.

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There are many other ships built for specialised trades such as for the carriage of newsprint paper rolls or cement.

### Tramps.

British maritime supremacy was built up almost exclusively by the tramp ship, sometimes poetically described as a "sea gipsy," and it is this type which has suffered most severely by the great decline in international trade and by the competition of the cargo liner.

A tramp is a ship which can be chartered by a merchant in any part of the world and which in consequence does not trade on any regularly defined route. Some are specialised to the extent that they are especially suitable for the transport of grain or coal or some other commodity, but by far the largest proportion used to leave British ports with coal and return with whatever they could pick up, but in these hard times, with the demand for British coal falling off, they all too often leave these shores empty.

The tramp or general trader remains the backbone of Britain's seaborne traffic and it will go hard with us if their number is insufficient to meet our needs in the event of future hostilities.

Drab in appearance and not often exceeding twelve knots, the tramp has a difficult future, but modern improvements have produced several types of "Economy" ships which should go far to enable us to hold our own.

### Tankers.

The tanker deserves a special mention, because her place is becoming more and more important accordingly as the world becomes more and more dependent upon some form of oil for its industries.

The British Empire is in an awkward position, because with her Royal Navy, Royal Air Force and mechanised Army dependent for the most part upon oil, and

## Ships and the Sea

with over one third of her mercantile vessels driven by oil engines or burning oil in steam boilers, she is particularly dependent upon foreign good-will; very little oil is in the British Empire and our principal supplies, from Iran, are in a dangerous quarter of the world.

In the old days, oil was carried in barrels and it was thought that steamers were far too dangerous to undertake the carriage of oil because of dangers of fire, so it was not until 1886 that the first practical tanker was built; she was the *Gluckauf*, a small vessel of about nine and a half knots speed.

The modern tanker is easily recognised as her engines are usually right aft and she looks very long and sits low in the water when fully loaded, earning the title of the "Dachshund of the seas" in consequence.

Discipline in a tanker is rigid on account of danger from fire, and the dangerous time is when she has been emptied and her holds still give off inflammable vapour.

They are rigidly constructed, usually on the Isherwood longitudinal system described elsewhere, and special precautions, in addition to bulkheads, are taken to prevent any possible leakage of the petroleum into the engine-room or boiler spaces, petroleum being capable of leaking through where water cannot.

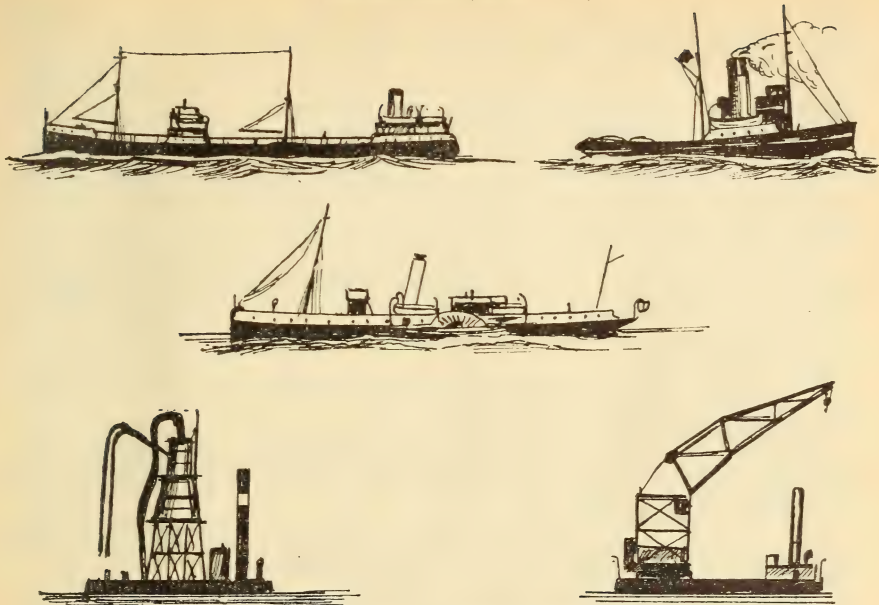
Most tankers have accommodation for a few passengers and they are very comfortable.

The steel decks are encumbered by a large number of hatch covers and in order to provide access above deck from one end of the ship to the other very narrow "Flying bridges" are provided.

### Cable Ships.

Another specialist is the cable-laying ship, but in days gone by it used to be the opinion that any ship that was large enough could do the work.

TYPES OF SHIPS (not to scale)



1. Tanker. 2. Ocean-going Tug. 3. Paddle Steamer. 4. Grain Elevator.  
5. Floating Crane.



## Ships and the Sea

The *Great Eastern* performed her only really useful work in laying cable, but since then the type has become more and more specialised.

In appearance the ships look like small passenger ships and are usually white-painted, but the outstanding vessel and the largest in the world is the *Dominia*, belonging to the Telegraph Construction and Maintenance Company, which may often be seen at her moorings near Greenwich pier on London river.

This splendid vessel has fine lines like a passenger liner, she has one graceful yellow funnel and four tall masts and is close on 10,000 tons in measurement; in common with all cable layers she can be distinguished by her sheaves or leads for laying out the cable over the bows.

She has four cable tanks, each about fifty feet round and about twenty-seven feet high and each is a reservoir for 1,000 miles of cable, coiled beneath the surface of the cooling water in the tanks, and from stem to stern she is a museum of scientific ingenuity.

During hostilities all cable ships rank as warships and are therefore liable to attack without warning.

In all shallow waters and for all short lengths of cable, it is paid out over the bows on the weather side of the layer.

Sometimes cable weighing more than 10,000 tons is carried in the tanks.

No less wonderful are the grappling appliances for fishing the cable from the ocean bed to repair damages or to remedy defects, and frequently it has to be raised from 1,500 fathoms or more.

The cable must be laid so that it just rests comfortably on the ocean bed; it must not be taut so as to cause a strain, but on the other hand it must not hang in large festoons between the peaks of mountain ranges beneath the sea.

A cable-vessel by day, when engaged in repairing or laying telegraph cables and when not under command in consequence, exhibits two red circular shapes with



## Classes of Ships

a white diamond between, arranged vertically. By night, two red and one white light take their place, and if the ship is not under way, no side lights are shown.

### Fruit Carriers.

The fruit-carrying vessel usually has beautiful lines and is almost invariably painted very light grey or white.

She usually has accommodation for a limited number of first-class passengers and the fruit is stored in the "tween decks."

Elders and Fyffes have done much to introduce the banana as a food item in this country and each of their vessels carries anything up to 100,000 stems of them at a time.

### Cross-Channel Packets and Coastal Liners.

The modern passenger-carrying ships round the British coasts are in every respect smaller editions of the large ocean liner.

In appearance they look the same except for their size and internally they are very comfortable and well appointed.

The cross-channel ships have fine lines on account of their high speed and it is these fine lines which make them lively in a seaway, particularly as nearly all the stretches of water covered by them have the reputation of providing nasty lumpy seas.

The paddle-steamer remained until quite recently on these cross-channel runs, because the paddle wheels undoubtedly made them steadier, and it was not until a few years ago that the last pair, run by the Zeeland Steamship Company between Flushing and Folkestone, was withdrawn.

Some weird contraptions were introduced last century, such as double-hulled craft, that is to say the superstructures were built across two hulls side by side, but they were not very successful and must best be regarded as freakish experiments.

The first turbine ship on the cross-channel service was the South Eastern and

## **Ships and the Sea**

Chatham Railway Company's *The Queen* early in this century, and thenceforth, developments were rapid.

Still among the packet class, but more approximating in build to the coasting ship, is the slower type exemplified by the three motor vessels of the Belfast Steamship Company.

### **Pleasure Craft.**

A class of ship easily recognised, is the coastal pleasure or excursion steamer, because she is usually a "paddler" and she is always of light looking build with fine graceful lines, more often than not with one mast only.

The paddle-steamer is very fascinating to watch, she is easy to handle, is steadier because of the extra width provided by the paddle boxes and she is of very shallow draught; fortunately there is no indication that her sphere of usefulness is at an end, in fact modern developments have been incorporated into the design of recent ships of this type, such as the diesel-electric drive.

Curiously enough, however, a series of paddle ships built during the last few years has been designed so that broadside on, except for the churned-up water amidships, they would look like ordinary screw ships and this seems a pity.

The idea that excursion paddlers are only lightly constructed and unable to stand up to heavy weather is quite a mistaken one and it was Lord Jellicoe who proved their inestimable worth by taking most of them over for mine-sweeping and patrol work during the Great War. Their shallow draught enabled them to cross most mine-fields in safety and when, later on in the war, it was necessary to build minesweepers, they were largely of the paddle type.

On the Clyde, the turbine-driven excursion steamer is a very fine type and it was from experience gained by an early Clyde ship that *The Queen*, mentioned above, was evolved for cross-channel work.

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### Train Ferries and Motor Car Ferries.

Train-ferries can easily be recognised because they almost invariably have very thin flat-sided funnels, set side by side but widely spaced, one on either beam.

They have open sterns which may possibly be closed by doors, and railway tracks running the entire length of the vessel.

The principal advantage of the train-ferry is that the time and labour of loading and unloading cargo or passengers is saved, because the vessel just backs against a specially constructed stage at the terminal point, so that the rails on the deck of the ship fit with the rails on the quay, and the train is run in.

They are particularly of value for short crossings and show to best advantage in smooth water because their unusual construction makes them most uncomfortable in other circumstances.

We had not favoured them much in this country until the war, when three train-ferries were constructed especially to run from the war-time port of Richborough, near Sandwich, across to the other side of the channel; these steamers are to-day run by the London and North Eastern Railway between Harwich and Zeebrugge.

Shortly there will be another train-ferry service in operation, that between Dover and Dunkirk, and special docks have been constructed at Dover to facilitate the handling of these craft; difficulties have been encountered owing to the great difference in height between high and low water and to unexpected engineering hitches.

These Dover ferries will have large garage accommodation for passengers' cars in addition to the trains.

There are one or two cross-channel vessels designed and run purely as motor-car ferries and the cars run straight on in the same way as the trains do in the larger train-ferries.

The weather to which all the cross-channel craft are subjected is heavy, especially in winter months, and the strain on ship and navigators is tremendous; the ship

## **Ships and the Sea**

has to be fine-lined for speed and yet staunch enough to face heavy seas and much buffeting in getting into ports in all weathers; day and night in all seasons the routes are maintained and the strain on the crew of continually cutting right across the shipping lanes is tremendous. Travellers often complain of the discomforts of a cross-channel journey; let them think a bit of the men who face all weathers and who just carry on, or let them stand on the Admiralty Pier at Dover, under cover at the shoreward end with the seas breaking right over the roof, and let them watch a cross-channel packet fighting her way in or out of the harbour; perhaps they will live to marvel and to complain less.

### **Tugs and Salvage Craft.**

Some of the most attractive and ubiquitous craft of all are tugs; they are picturesque and there can be few people who have not seen some form or another of tug-boat.

The large deep-sea tugs are quite large ships and some of those on the lower reaches of British rivers are by no means small.

The Dutch have always specialised in powerful tugs for deep-sea towing, and have many famous feats to their credit, such as pulling large floating docks half across the world.

They always give the impression of great power, an effect enhanced by the fact that most of them have their funnels and bridge pushed forward, and they more often than not have a characteristic stern, in which the bulwarks aft have a very strong "tumble home," a characteristic originating from the river tugs employed on lighterage work to enable the lighters to push their sloping stems right up over the tug's stern and so keep station without difficulty.

The power of a modern tug is very great and the amount of space occupied by their engines can be judged by the very slight difference between the gross tonnage

## Classes of Ships

or total cubic capacity of the ship, and the net tonnage, or what is left after deducting engine and boiler spaces.

Towing is an extremely difficult business and the skippers of tugs are some of the finest seamen afloat; to watch a river tug being handled, spinning round on her own length, or towing lighters lashed abreast, is an education in itself.

In the days of sail, London tugs often went as far afield as Dungeness and even well beyond the Scillies in order to wait for an incoming ship.

To watch tugs assisting a giant Western Ocean liner into her berth is another interesting sight and on the other side of the Atlantic they push with their noses against the liner's side.

At night, a vessel towing, exhibits, in addition to her sidelights, two white lights on her foremast not less than six feet apart and if the length of the tow is more than 600 feet, a third white light above or below the others.

Many tugs are also fitted with salvage appliances, such as powerful pumps and oxy-acetylene gear, and again there are craft specially designed as salvage ships and which, although as capable of handling heavy tows as the ordinary tug, do not undertake ordinary towage duties except in conjunction with salvage operations.

There are some very powerful German ships of this class and some very fine work they have done.

Most of these salvage craft are based on regular ports, such as at Queenstown, Gibraltar, Aden, and so on.

Some of the most powerful tugs round the British coasts are the Dover Harbour twin-funnelled vessels, and the *Lady Brassey* is well known for her services up and down the channel.

On long tows the hawser usually consists of part wire and part hemp, the wire length is easier to pay out or shorten as necessary and is much easier to slip in an emergency, while the hemp allows the necessary elasticity and prevents anything



## Ships and the Sea

carrying away; the wire will probably be about four and a half inches in girth and the hemp twelve inches, the two combined giving a length of anything up to 150 fathoms.

To decide upon the length of the tow-rope is a matter demanding much experience and good judgment, but as a general rule, the more sea-room that there is, the longer the tow, and, certainly in bad weather, the longer the tow the greater the safety.

Tugs also sometimes serve as tenders to disembark passengers from ships which lie out in open roadsteads, but they naturally have to be certified for this purpose.

The histories of many of our tug-owning companies make extremely interesting reading and many have roots well into the past; Turner's picture of the *Fighting Temeraire* has immortalised one of the tugs of William Watkins, which is shown pulling the old ship to her last resting-place.

It does not require much stretch of the imagination to realise the difficulties of effecting a satisfactory tow even in calm waters, especially of such a thing as a giant floating dock which is quite powerless to help herself and which cannot be steered, or of a ship whose engines are not functioning, but in heavy weather the difficulties and dangers are tremendous. In the first place getting a hawser across to the other vessel is a difficult operation, but when the two vessels are plunging wildly in seas running mountains high, the difficulties are increased and once having passed a hawser the next thing is to wait for it to part and to wonder how long it is going to be before the whole business has to be done all over again. The tow is one minute riding high above the stern of the tug, threatening to plunge down and crush it, and the very next minute it may be entirely lost to view, hidden by a wave crest or dipping in the heavy swell.

Akin to the salvage tug are the vessels employed by Trinity House or Harbour Commissioners for raising and lowering buoys, removing wrecks and visiting light-

## Classes of Ships



HOPPER BUCKET DREDGER.

vessels, towing them home for repairs, if necessary, and generally supervising all beacons and coastal marks.

### Dredgers.

How anyone can work up an affection for a dredger is beyond most men's comprehension and yet the crew of these extraordinary craft profess to do so, but perhaps it is perverted; on the other hand, ugly and dirty as they are externally, they are certainly most wonderful creations.

Nearly all ports have dredgers and with the increasing draught of modern ships their duties are increasing; channels have to be maintained at a given depth and in a port such as London, which stretches for forty miles or more, the work is unceasing.

The class includes a very large number of types, differing according to the work upon which they are engaged. Some are towed to their station by tugs and others are self-propelled.



## Ships and the Sea

The chief type in use in British ports is the *bucket dredger*, which has a large number of buckets attached to an endless chain working on a ladder which can be raised or lowered as required.

Having scooped up the mud from the bottom, the buckets tip their spoils out as they go over the top of the wheel to which the chain is attached, and this either goes into the dredger's hold or more often nowadays down chutes into barges alongside.

A bucket dredger such as is in use in the Thames Estuary dredges about 2,000 tons of spoil hourly.

To hear one at work is to gain an impression of a soul in torment; the noise is unearthly, not necessarily because of its volume but because of its weird, wheezing coughing and squeaking which is like nothing heard elsewhere; people have often been kept awake at night in seaside hotels under the impression that the place was haunted, and no wonder.

The type which carries her own spoil is called a *hopper dredger* and when she gets to a place sufficiently far out at sea, the bottom is opened, the spoil dumped and the water pressure immediately closes the traps in the bottom again, and this is where the skill in design and construction comes in, because it is a tremendous strain on the dredger to be suddenly relieved of several thousand tons weight of sand or rock.

If barges convey the stuff to sea instead of the dredger they are called *hopper barges* and these similarly may be either self-propelled or dependent on tugs for their movement.

Sometimes the bed of the river or channel may be of rock and the dredger has a large grab or crane which picks up a large chunk at a time and deposits it in a place of safety, or the buckets may have large teeth which serve the same purpose.

Others are *suction dredgers*, such as those well known on the Mersey, and one

## Classes of Ships

owned by the Mersey Docks and Harbour Board is nearly 500 feet in length and she can handle 10,000 tons of sand in fifty minutes.

As its name implies, the suction dredger sucks up the liquid mud through pipes, perhaps over three feet in diameter and the pumps of the above mentioned vessel are effective up to depths of 70 feet.

British built dredgers are about the finest obtainable and they are found all over the world.

Others again are used for making canals and they usually have long overhanging bows so that they can be moored close up to the bank which they proceed to eat away.

In the daytime a dredger at work hoists two black balls and a red flag in the form of a triangle, the flag indicating the side on which it is dangerous for other vessels to pass; at night two white and one red lights take their place, and if it is safe to pass on either side, three white lights are used.

### Harbour Craft.

Other floating wonders likely to be met with in a port are *Grain Elevators* and *Coal Elevators*, which are sometimes self-propelled and which do away with the necessity of ships having to wait for a berth; the former suck the grain out of the ship's hold by long pipes and the latter bunker a steamer from barges to lighters alongside, and the speed with which they work is astounding.

Such methods save all the time of warping in and out of dock or they are frequently in use in very congested waterways when there is no vacant space alongside the quay.

*Floating cranes*, again either self-propelling or otherwise, are interesting and frequent sights in large ports.

In busy waterways *ferries* are continuously in operation and they usually have rudders at both bow and stern to facilitate manœuvring; the Mersey ferries are

## **Ships and the Sea**

very fine craft capable of accommodating about 2,000 people each. The Woolwich Free Ferry is conducted by quaint-looking paddle craft with a very tall, thin, bell-topped funnel at either end: carts and cars are carried on the upper deck and passengers below.

In all weathers, fine and foul, these services are carried on, and very rarely indeed does fog interrupt them, and the work must be trying and exacting.

A thousand and one other craft of all shapes and sizes could be mentioned, foreign as well as British, but probably those most likely to be met with have been described.

## CHAPTER XVI

# Sailing Ships

IT is doubtful whether many voyagers will ever set eyes on some of the types of large sailing ships mentioned here, because there are very few of them left.

It is only in recent years, when the sailing ship has become practically extinct, that people have become interested in them and no doubt more nonsense has been written about them than about anything else. Like all things in this world, ships and conditions varied; some were floating hells and some were happy ships; some of the officers and men were hard cases and others were ordinary human beings, but there is no doubt that of a necessity the life was hard and conditions often almost unendurable.

There can be no two opinions regarding the outward beauty of the sailing clippers, but then these were only in existence during the swan-song of sail—the famous *Cutty Sark* herself was built in 1869, almost thirty years after the introduction of serious steam competition.

Cutting out the fast clipper ships, there is undoubtedly a beauty about a sailer that can never be attained by her modern counterpart.

The first sail of which there is any record is the square sail and the Norsemen's long boats had a single square sail only, and as time went on more masts were added to ships, but on all of them were placed various sizes of square sail and the fore-and-aft rig was not introduced until 1700, although similar sails were in use in Mediterranean galleys at least 100 years earlier.

## Ships and the Sea

*Square-rigged* means that the sails are set upon yards which are at right angles to the keel, or athwartships, and *fore-and-aft* rigged, that they lie along the centre line.

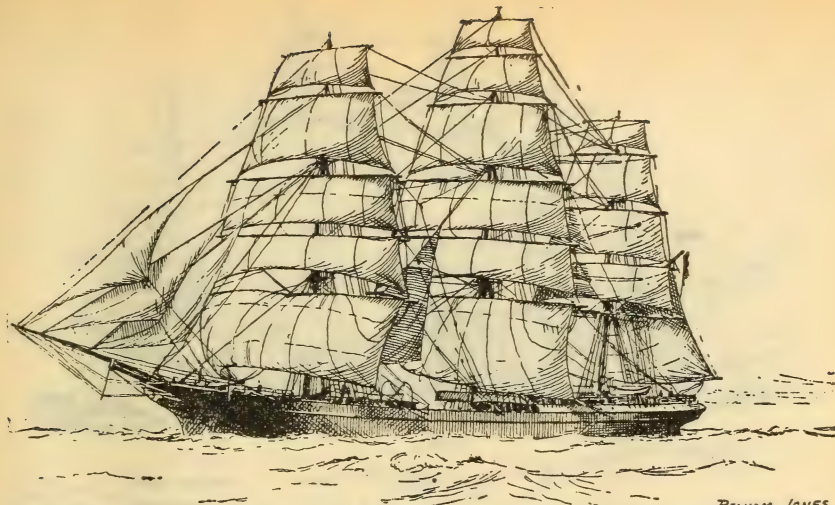
The old East Indiamen were lumbering and stately craft with whom time was little or no object, and it was not until speed became an asset, such as for those privateers or smugglers who cut into the legitimate trading business or later when the gold rushes started, that lines became finer and the speedy clipper made her appearance. The China silk trade and the tea trade depended for their profits upon quick arrivals in the markets and so the fast sailer was brought to perfection, but the opening of the Suez Canal hastened her disappearance already foreshadowed by the steamer.

When owners of sailing ships had to economise in every way in order to hold their own against the steamer, the fore-and-aft rig came more and more to the front, because square sails required a very large crew for handling whereas the fore-and-aft did not, and taking it right up to modern times this practice increased with the introduction of steam winches for the handling of sails.

Before going into details about the rigs it is interesting that the full-rigged ship did not come into existence until comparatively recently; before that time the vessels were rigged almost like the modern barque but it was found that for convoy purposes, and for warships which had to keep station, a check was needed on the mizzen mast and so at first a small topsail was added and gradually this became larger until the cross-jack was placed below about three square sails.

The large ships until about the eighteenth century carried three very large square sails on each mast, and the Trafalgar ships carried very much the same, but it was gradually realised that these gigantic spreads of canvas were unwieldy and so they were divided.

The masts of large sailing ships are in three pieces; the *lower mast*, above which is the *topmast*, and above this again, the *topgallant*.



"TORRENS"

Composite ship, built 1875 by J. Laing, of Sunderland, for a syndicate headed by Captain Henry Robert Angel. Dimensions, 222·1 by 38·1 by 21·5 feet. Gross tonnage, 1,335. Nett tonnage, 1,276.

Built in what was perhaps the finest period of the Australian passenger trade under sail, the *Torrens* is always put down as a ship with a remarkable personality and is remembered, among other things, for having had the honour of numbering Joseph Conrad, the author, among her officers. Another feature is the extraordinary connection between her and the Angel family as owners, masters, officers and apprentices; the ribald would describe her as "the Ship of the Angel Host".



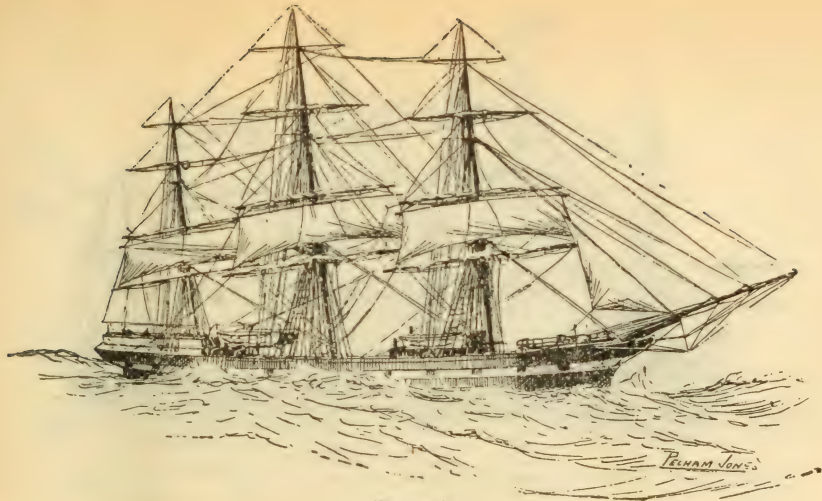


**"ARCHIBALD RUSSELL"**

Steel, four-masted barque, built 1905 by Scott's Shipbuilding & Engineering Co., of Greenock for J. Hardie and Co., of Glasgow. Dimensions, 291.4 by 43.2 by 24.1 feet depth of hold. Gross tonnage 2,385. Nett tonnage, 2,181.

By the time the *Archibald Russell* was built in 1905, the pressure of steam competition had forced the sailing ship to consider economy in every direction, particularly in the number of hands employed. The divided and comparatively low sail plan, the buntlines to lessen the work on the yards, the triangular spanker and the comparatively short combined bowsprit and jibboom were all designed with economical manning in view.

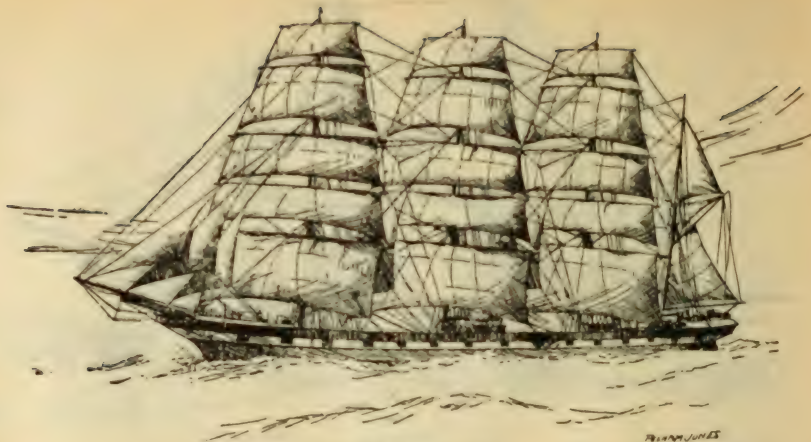




"PIAKO"

Iron ship, built 1876 by A. Stephens & Sons, of Glasgow, for the New Zealand Shipping Company, of London. Dimensions, 215.3 by 34 by 20.5 feet depth of hold. Gross tonnage, 1,136. Nett tonnage, 1,075.

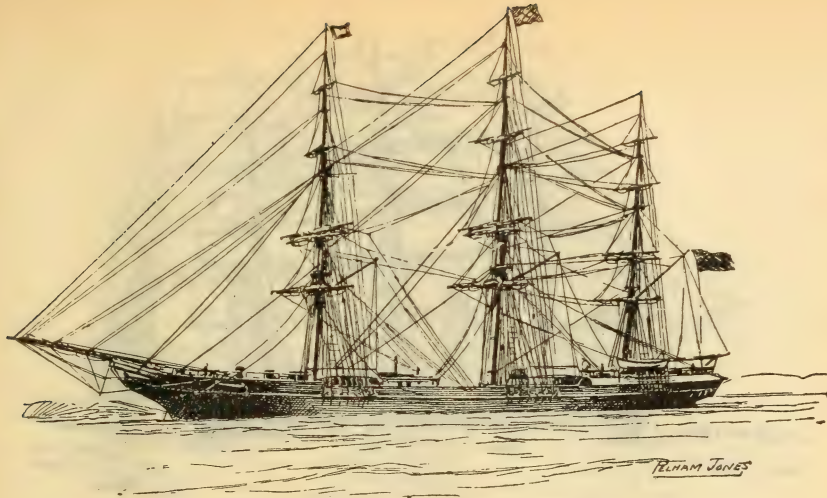
The New Zealanders took just as great a pride in their sailing ships as did the Australians, but whereas the Australian ships were nearly all of individual design, although often enough of the same general type, the New Zealanders built very much more in classes of sisters although, as was usual in sail, it was very difficult to design an exact sister and they varied greatly in performance. The *Piako* was typical of the New Zealand Shipping Co.'s sailing ships before they finally turned to steam and she was originally designed to carry a fair number of passengers, while her spars were unusually heavy for her day, although on the New Zealand trade weight and strength were often badly needed.



### "LOCH TORRIDON"

Iron four-masted ship, built 1881 by Barclay Curle and Co., of Glasgow, for Alken & Lilburn, managing the General Shipping Company, of Glasgow. Dimensions, 287·4 by 42·6 by 24 feet depth of hold. Gross tonnage, 2,081. Nett tonnage, 2,000.

Carrying emigrants to Australia at a time when the greater part of that trade had been transferred to steam, ships of the Loch Line like the *Loch Torridon* paid a great deal of attention to their appearance; smart aloft, their hulls were painted grey below the line of imitation gunports and black above it, while white fore-castle-head and half-round poop completed the scheme. The round perforations in the clews of the sails will be noticed, while the spencer gaff on her mizen was most unusual for a ship as modern as she was.



### "TWEED"

Built originally as a paddle frigate at Bombay, in 1854, for the East India Company's navy. Converted into a wooden merchant ship of dimensions 250 by 39·6 by 24·7 feet depth of hold. Gross tonnage, 1,751. Nett tonnage, 1,646.

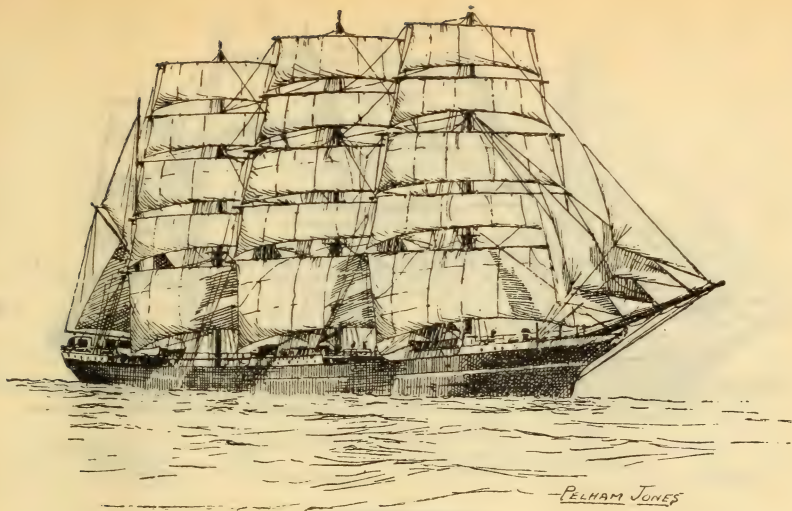
The famous John Willis clipper, *The Tweed*, bore signs of her naval origin to the end of her days although later this impression was lessened by the fitting of double topgallant sails. According to sailor's tradition her lines were copied in the *Cutty Sark*, but the most careful examination failed to show any great similarity between the two.



"YALLARO"

Iron ship, built 1885 by A. Hall & Co., of Aberdeen, for A. Nicol & Co., of Aberdeen. Dimensions, 245·8 by 38·1 by 22 feet depth of hold. Gross tonnage, 1,565. Nett tonnage 1,499.

The 'eighties were a period of experiment with sail and various ideas were tried for improving the efficiency of the ship or occasionally, one suspects, from a desire to be different. The *Yallaro* was actually a three-skysail-yard ship, but the topgallants had so little hoist that she was very often put down as a double-topgallant-sail ship and her peculiar rig was the subject of infinite argument among sailing ship men.



"GARTHPOOL"

Steel, four-masted barque, built 1891 by W. B. Thompson & Co., of Dundee, for Charles Barrie, of Dundee. Dimensions, 310 by 45 by 25·1 feet depth of hold. Gross tonnage, 2,842. Nett tonnage, 2,652.

Like many other ships built during the revival of sailing ship construction in the early 'nineties the *Garthpool* designed to carry the biggest possible cargo of Indian jute, was given the Jubilee rig, introduced in 1887, the year of Queen Victoria's Jubilee. Called "bald-headed" by the sailor, Jubilee ships had a very square rig and carried nothing above the top-gallant sails, a measure adopted purely in order to reduce the necessary crew.

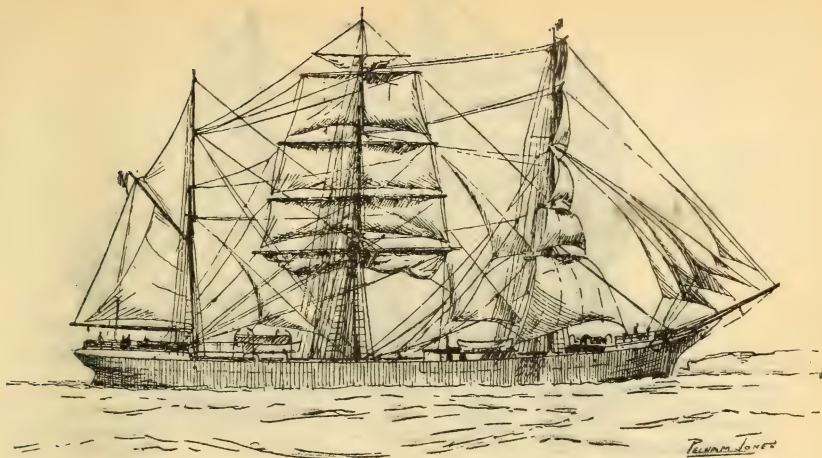




### "CUTTY SARK"

Composite ship, built 1869 by Scott & Linton, of Dumbarton, for John Willis & Son, of London. Dimensions, 212.5 by 36 by 21 feet depth of hold. Gross tonnage, 963. Nett tonnage, 921.

Perhaps the best known of all the clippers to the general public, the *Cutty Sark* is still to be seen and studied at Falmouth. With a particularly graceful bow, her entrance was more like that of a modern liner than an old-time sailing ship. As she has been restored in Falmouth she carries her old tea-clipper rig with a main skysail; as shown in the illustration she carries the modified rig which she was given when she went into the Australian trade.

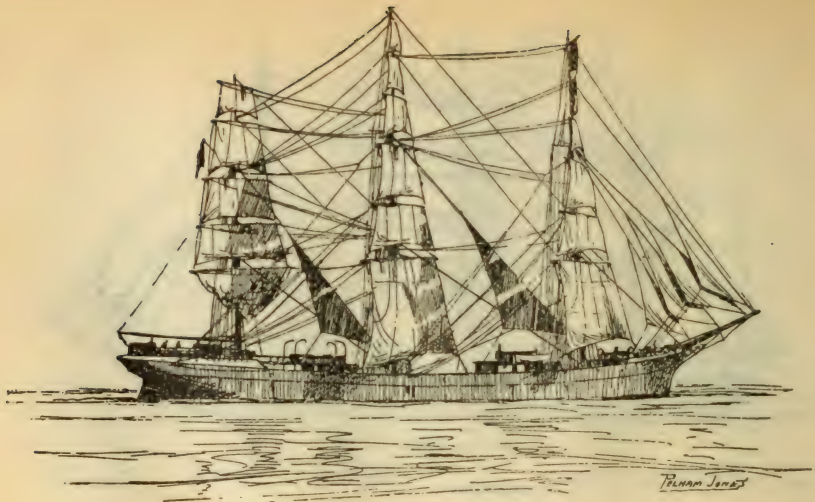


"INVERCAULD"

Steel, three-masted barque, built 1891 by A. McMillan and Son, of Dumbarton, for George Milne & Co., of Aberdeen. Dimensions, 237.5 by 36.2 by 21.7 feet depth of hold. Gross tonnage, 1,416. Nett tonnage, 1,303.

Typical of the steel barques, built on the Clyde in considerable numbers in the early 'nineties, the *Invercauld* had the characteristics of a number of other ships of the same ownership in that she carried single topgallant sails at a period when the double was almost universal. The short poop and forecabin was much more characteristic in modern practice.

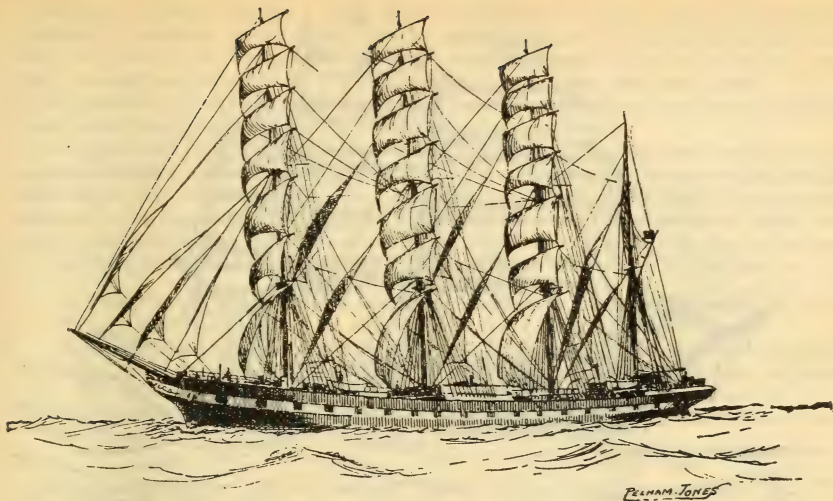




### "MONKBARNS"

Steel ship, built 1895 by A. McMillan & Son, of Dumbarton, for Charles W. Corsar, of Liverpool. Dimensions, 267 by 40·1 by 23·6 feet depth of hold. Gross tonnage, 1,911. Nett tonnage, 1,771.

A typically modern sailing vessel designed for the tramping trade, and to carry cargo rather than to make passages, the *Monkbarns* was no beauty in the eyes of the old sailorman who was brought up to appreciate the clipper's grace, yet by means of every labour-saving device for working the cargo and sails she contrived to make a living in spite of the competition of steam. Like all Corsar's ships she had a flying horse as a figurehead which, appropriate enough in his *Pegasus*, was a little incongruous in some of the others.



### "NORTH STAR"

Steel, four-masted barque, built 1892 by Grangemouth Dockyard Co., of Alloa, for A. Bilbrough & Co., of London. Dimensions, 316·8 by 43·2 by 24·5 feet depth of hold. Gross tonnage, 2,761. Nett tonnage, 2,627.

Built at a time when most British sailing ships were designed primarily for economy, the *North Star* was conspicuous for her tremendous sheer forward and the fact that she crossed three skysail yards when the majority of the four-masted barques of her day were bald-headed and carried nothing above their topgallants. Her big "Liverpool House" amidships added greatly to her comfort but made her a little awkward to work.



"BRILLIANT"

Iron ship, built 1877 by Duthies, of Aberdeen, for their own service. Dimensions, 254·8 by 39·7 by 24·2 feet depth of hold. Gross tonnage 1,666. Nett tonnage, 1,613.

Most of the clippers and semi-clippers hailing from Aberdeen were known by their green hulls but the *Brilliant* was an exception and always had a glossy black hull on service which, with her graceful lines and the brass rail which went all round the ship, gave her a particularly smart appearance and earned her the nickname of "Duthie's Yacht," or "the Australian Yacht," in the ports where she was known.

## Sailing Ships

On each of these was set a large square sail, but when they were divided there remained a large sail on the lower mast as before, with *two* on the topmast and most likely *two* also on the topgallant; the yard, upon which the upper of either pair was fixed, hoisted and lowered on the foremast, but the lower yard was fixed.

This practice remains to the present day, but above the topgallant mast is a light mast called the *royal pole* on which there is also a square sail.

In clipper-ship days still more sails were crammed above the royal and went by such names as *skysail*, *sky-scraper*, *moonraker*, etc. The skippers were renowned for driving their ships hard and crammed every ounce of canvas on; *studdingsails* (pronounced stunsels) were rigged on either side of the square sails and so made them wider and they quite overdid the *fore and aft staysails* which were placed between each mast.

The thing to remember in trying to give names to the sails of a ship are:—

1. The names of the masts; foremast, mainmast, mizzen and jigger. (You do not often come across vessels with more than four nowadays.)
2. Each mast which is square-rigged is divided into four parts: lower, topmast, topgallant and royal pole, so that you have *fore* lower mast, *main* topmast, *mizzen* topgallant, etc.
3. On the lower mast and royal pole there is one sail and on topmast and topgallant usually two each.

In consequence we get the sails as shown on the drawing on page 233, the mizzen course being called the *crossjack* and pronounced crojik.

The rigging which holds the masts in position is called the standing rigging and that which works the sails the running rigging.

Modern sailing ships have their bowsprit in a single piece, but the old-timers had a bowsprit with a *jib-boom* projecting beyond it and perhaps a *flying jib-boom* in addition.

In the very old sailing ships, the shrouds and backstays were fastened to pieces

## Ships and the Sea

of iron outside the hull, called *chain plates*, and the lower ends were bolted into the side but this fashion went out long ago and they all come down inside the bulwarks now.

The parts of sails are as under:—

### Parts of a Sail.

CLEW.—The lowest after corner, (or both bottom corners in a square sail).

FOOT.—The lower edge or bottom.

HEAD.—The upper edge or top.

LEACH.—The after edge, or both edges in a square sail.

LUFF.—The foremost edge.

PEAK.—The upper after corner.

REEF POINTS.—Pieces of line worked into the sail for reefing or furling the sail.

ROACH.—The curve in the foot of a fore and aft sail.

THROAT.—The upper foremost corner.

Staysails are the fore and aft sails fixed to the forestays between the masts or from the foremast to the bowsprit.

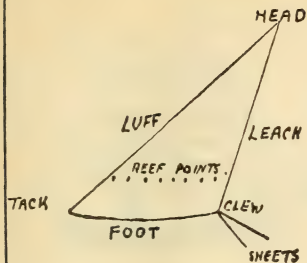
The chief rigs are as follows:—

BARQUE (or Bark).—A vessel square rigged on all masts except last which is fore and aft rigged.

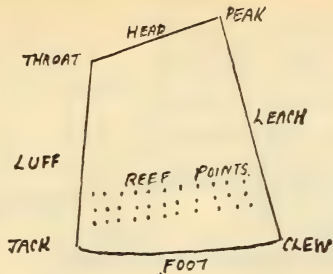
BARQUENTINE.—A three masted vessel, square rigged on the foremast and fore and aft rigged on the main and mizzen masts. Originated on GREAT LAKES and not often seen but when it is, it is often called a Schooner.

BRIG.—A two masted vessel, square rigged on both masts and with a boom mainsail. (Might almost be called a two masted full-rigged ship for purposes of fixing in memory.)

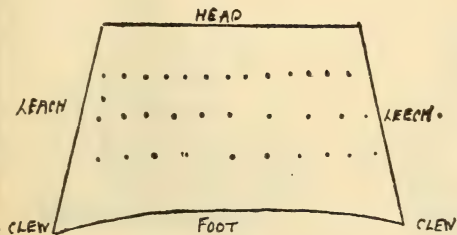
BRIGANTINE.—A two masted vessel, square rigged on the foremast and fore and aft rigged on the mainmast. (Remember it as a two masted barque.)



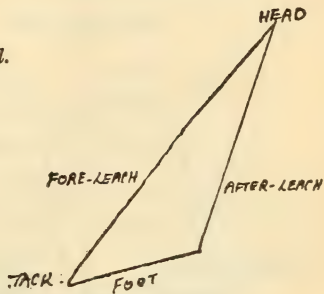
*Jib.*



*Mainsail.*



*Square sail.*



*Staysail.*





*Full-Rigged Ship.*



*Brig.*



*Three-Masted Barque.*



*Brigantine.*



TYPES OF SAILING VESSELS (2).



*Barquentine.*



*Three-Masted Fore and  
Aft Schooner.*



*Topsail Schooner.*



*Ketch.*



*Yawl or Dandy.*

TYPES OF SAILING VESSELS (3).



*Thames Barge.*



*Lugger.*



*Vessel with Sliding  
Gunter Sails.*



*Sloop.*



*Vessel with  
Gaff Sails.*

SOME TYPES OF FOREIGN SAILING VESSELS.



*Mediterranean and Nile Vessels  
with Lateen Sails.*



*Dutch Schuyt.*



*Chinese Trading Junks,*

## Ships and the Sea

**CUTTER.**—Single-masted vessel, fore and aft rigged.

**KETCH.**—Same as a cutter, but having a mizzen mast stepped aft.

**SCHOONER.**—A vessel fore and aft rigged on all masts. Originally had two masts but may have any number and there has been a seven masted schooner. Sometimes called a fore and aft schooner to distinguish from topsail schooner.

**SHIP (Full-rigged).**—A vessel square rigged on all masts, of which she usually has three.

**TOPSAIL SCHOONER.**—Same as a schooner, but usually with two masts only and carries a square topsail on the foremast.

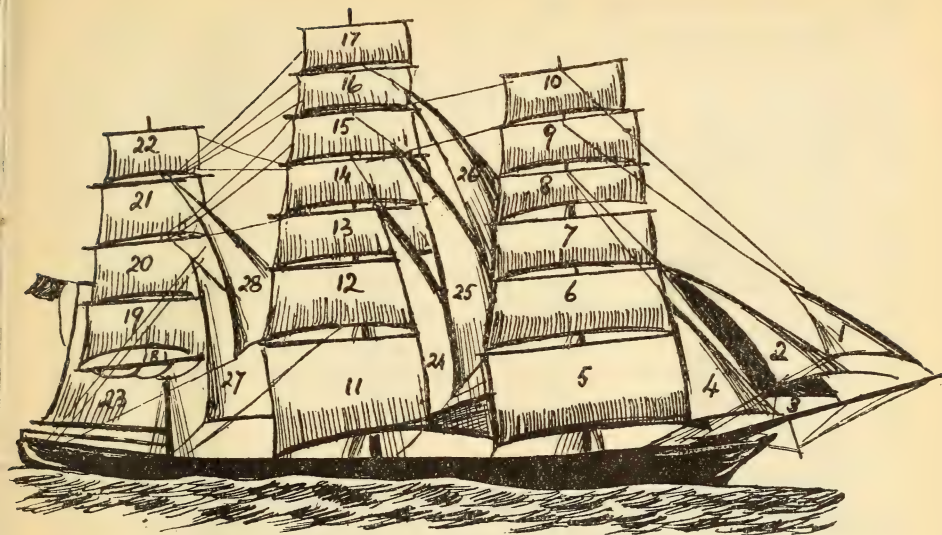
**YAWL.**—Same as a ketch, but with smaller mizzen mast which is set further aft.

**SLOOP.**—Same as cutter but with one head sail only.

### Sails of a Full-rigged Ship (*see drawing on page 233*).

- |                                 |                                  |
|---------------------------------|----------------------------------|
| 1. Flying Jib.                  | 15. Upper Main Topgallant Sail.  |
| 2. Outer Jib.                   | 16. Main Royal.                  |
| 3. Inner Jib.                   | 17. Main Skysail.                |
| 4. Fore Topmast Stay-sail.      | 18. Cross-Jack (Brailed up).     |
| 5. Fore Sail or Fore Course.    | 19. Lower Mizzen Top Sail.       |
| 6. Lower Fore Top Sail.         | 20. Upper Mizzen Top Sail.       |
| 7. Upper Fore Top Sail.         | 21. Mizzen Topgallant Sail.      |
| 8. Lower Fore Topgallant Sail.  | 22. Mizzen Royal.                |
| 9. Upper Fore Topgallant Sail.  | 23. Spanker or Driver.           |
| 10. Fore Royal.                 | 24. Main Topmast Stay-sail.      |
| 11. Main Sail or Main Course.   | 25. Main Topgallant Stay-sail.   |
| 12. Lower Main Top Sail.        | 26. Main Royal Stay-sail.        |
| 13. Upper Main Top Sail.        | 27. Mizzen Topmast Stay-sail.    |
| 14. Lower Main Topgallant Sail. | 28. Mizzen Topgallant Stay-sail. |

SAILS OF A FULL-RIGGED SHIP.



## Ships and the Sea

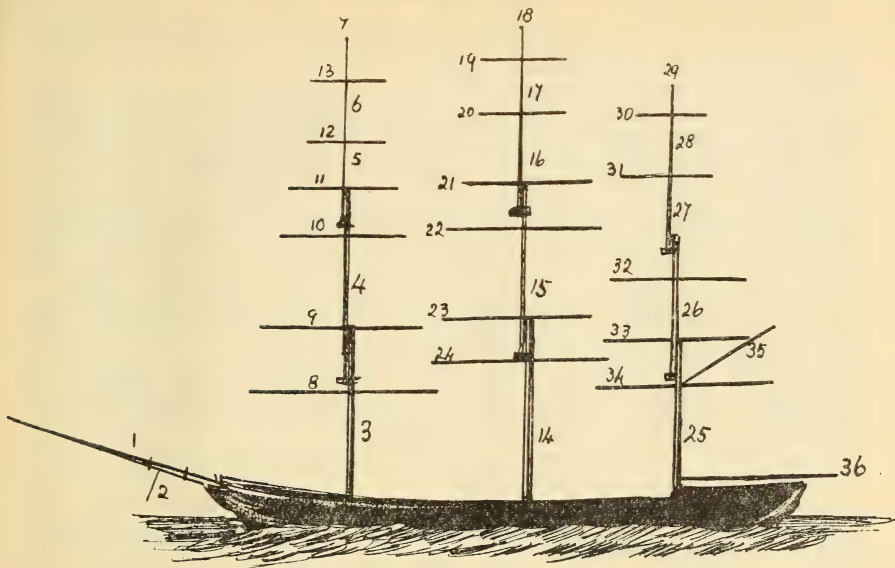
### Masts and Yards of a Full-rigged Ship (*see drawing on page 235*)

- |   |                                 |
|---|---------------------------------|
| 1. Bowsprit, consisting also of Jib-Boom and Flying Jib-Boom. | 19. Main Royal Yard.            |
| 2. Dolphin Striker.   | 20. Upper Main Topgallant Yard. |
| 3. Fore Mast.   | 21. Lower Main Topgallant Yard. |
| 4. Fore Topmast.  | 22. Upper Main Top Sail Yard.   |
| 5. Fore Topgallant Mast.                                      | 23. Lower Main Top Sail Yard.   |
| 6. Fore Royal Mast.   | 24. Main Yard.                  |
| 7. Fore Truck.  | 25. Mizzen Mast.                |
| 8. Foreyard.  | 26. Mizzen Topmast.             |
| 9. Lower Fore Topsail Yard.                                   | 27. Mizzen Topgallant Mast.     |
| 10. Upper Fore Topsail Yard.                                  | 28. Mizzen Royal Mast.          |
| 11. Lower Fore Topgallant Yard.                               | 29. Mizzen Truck.               |
| 12. Upper Fore Topgallant Yard.                               | 30. Mizzen Royal Yard.          |
| 13. Fore Royal Yard.  | 31. Mizzen Topgallant Yard.     |
| 14. Main Mast.  | 32. Upper Mizzen Top Sail Yard. |
| 15. Main Topmast.   | 33. Lower Mizzen Top Sail Yard. |
| 16. Main Topgallant Mast.                                     | 34. Cross-Jack Yard.            |
| 17. Main Royal Mast.  | 35. Spanker Gaff.               |
| 18. Main Truck.   | 36. Spanker Boom.               |

A *bald-headed rig* is one in which the masts are stumpy; for instance, there may be nothing above the topgallant in a square-rigged ship or no topsail in a fore and aft schooner.

The *Jubilee rig*, so-called because it made its appearance in 1887, the year of Queen Victoria's Jubilee, was applied to four-masted barques with no sails above the topgallants, which were much more square in shape and which had very long yards.

# MASTS AND YARDS OF A FULL-RIGGED SHIP.





## Ships and the Sea

There are many variations of these rigs but they cannot be gone into now.

There are also very many interesting rigs in use on small craft in different parts of the world, such as the Mediterranean "Felucca" with her lateen sails looking very picturesque and like enormous wings.

Chinese and Japanese junks appear to be very clumsily rigged, with bits of what look like sun-blinds stuck all over them with no method, but they are among the most ancient of craft and have existed almost unaltered for many centuries and are most efficient in their way; there are many different shapes and rigs of these craft.

Barges and fishing vessels vary very much all over the world but there is nothing in beauty to compare with the Thames sailing barge, which is unfortunately getting scarcer. A thing of beauty, she has been immortalized by Wylie and countless other artists; her sails are usually rust-brown, except her head sails which she uses when at sea and which are more often than not of a lighter colour, white or cream.

The hull of the Thames barge is flat-bottomed, so that to prevent her drifting to leeward and to assist her to sit safely on the mud at low water, she has *leeboards* fixed on either side, which are dropped down when required.

These craft are known as *Sprit-sail barges* because there is a long spar called a sprit which is fixed to the foot of the mainmast while its upper end supports the peak of the giant mainsail. They are often handled by two men only, and their work is heavy and their seamanship unsurpassed.

Racing Yachts are usually rigged as cutters of some kind or as sloops and they are dealt with in the following chapter.

It is strange to think that as recently as four years before the last war there were very large fleets of British sailing ships afloat, that of Andrew Weir amounting in 1911 to over fifty square-riggers.

Many of our shipping companies lines have histories carrying them well back into the days of sail and the ships of the Aberdeen and Commonwealth Line to-day still carry

## Sailing Ships

on the tradition of the old green-hulled clippers of George Thompson and his Aberdeen Line.

Just as steamships are recognised to-day by their funnel colouring so the old sailors had their distinguishing features in the colours of their hulls, their masts and spars or their yard arms; when merchant ships were in constant danger of attack from privateers in the Napoleonic wars, we painted our merchant ships with rows of imitation gun ports along the side and this custom survived well down the years.

There is only one British square-rigged ship afloat now and she is privately owned.

If you are lucky enough to see one you will most likely be indebted to Captain Erikson, of Finland, who has a fleet of about two-dozen large barques which receive a considerable amount of publicity in the season when they bring grain from Australia. Captain Erikson is also re-naming his vessels so that they now nearly all bear their original names.

Certain other countries maintain sea-going square-rigged training ships and several attempts have been made to re-introduce them in this country, but although it is no doubt true that a man trained in sail makes a better sailor than one not so favoured, it is very doubtful whether anything will materialise and after this generation it is more than likely that other nations will also drop out of the running.

The consolation to Britain is that out of about three dozen square-rigged ships in existence, one half were built in this country and we still have a considerable number of small coasting schooners.

The best known vessels afloat to-day are as follows:—

<i>Name</i>	<i>Built</i>	<i>Rig</i>	<i>Country</i>	<i>Tonnage</i>
ABRAHAM RYDBERG	Clyde, 1892	4-masted Barque	Sweden	2,345
AF CHAPMAN	Whitehaven, 1888	Ship	Sweden	1,493
ARCHIBALD RUSSELL	Clyde, 1905	4-masted Barque	Finland	2,354

## Ships and the Sea

<i>Name</i>	<i>Built</i>	<i>Rig</i>	<i>Country</i>	<i>Tonnage</i>
C. B. PEDERSEN	Italy, 1891	4-masted Barque	Sweden	2,142
CUTTY SARK (not trading)	Dumbarton, 1869	Ship	Great Britain	963
KILLORAN	Clyde, 1900	Barque	Finland	1,817
KURT	Clyde, 1904	4-masted Barque	Finland	3,116
KYLEMORE	Clyde, 1880	4-masted Barque	Finland	1,229
L'AVENIR	Germany, 1908	4-masted Barque	Finland	2,754
LAWHILL	Dundee, 1892	4-masted Barque	Finland	2,816
OLIVEBANK	Clyde, 1892	4-masted Barque	Finland	2,795
PADUA	Germany, 1926	4-masted Barque	Germany	3,064
PAMIR	Germany, 1905	4-masted Barque	Finland	2,799
PARMA	Clyde, 1902	4-masted Barque	Finland	3,047
PASSAT	Germany, 1911	4-masted Barque	Finland	3,137
PENANG	Germany, 1905	Barque	Finland	2,019
PESTALOZZI	Germany, 1884	Barque	Finland	1,057
POMMERN	Clyde, 1903	4-masted Barque	Finland	2,376
PONAPE	Italy, 1903	4-masted Barque	Finland	2,342
PRIWALL	Germany, 1920	4-masted Barque	Germany	3,185
SCHULSCHIFF DEUTSCHLAND	Germany, 1927	Ship	Germany	1,257
VIKING	Denmark, 1907	4-masted Barque	Finland	2,670
WINTERHUDE	Germany, 1898	Barque	Finland	1,972

The sailing ship was and still is perhaps the most beautiful thing originated and made by man; she is a living thing in the way that no modern power-driven vessel can ever be, and for beauty of appearance she can never be equalled, but there is

## Sailing Ships

no denying that the seaman's life was hard in those days. Those, however, who say that romance and glamour died with the sail ship are wrong—surely such qualities are spiritual rather than material.

### Countries owning a Considerable Number of Sailing Ships.

The numbers owned are no indication of the class of ship, for instance the British Empire owns 660 vessels, totalling 227,000 gross tons, an average of about 350 tons each, but Finland owns 65 averaging nearly 1,000 tons each.

BRITISH EMPIRE	660	vessels	of	227,000	tons
UNITED STATES	500	„	„	630,000	„
ITALY	190	„	„	46,000	„
FRANCE	100	„	„	36,000	„
PORTUGAL	80	„	„	20,000	„
FINLAND	64	„	„	60,000	„
SPAIN	60	„	„	14,000	„
ARGENTINA	40	„	„	25,000	„
ESTHONIA	40	„	„	13,000	„

## CHAPTER XVII

# Yachts and Yachting

### Yachts.

THE word comes from an old Dutch word "Jacht" and really means a hunting ship, although exactly what that signifies I do not know.

Whatever may be the correct derivation, it is unquestionable that it has been associated with pleasure craft for many centuries and first made its appearance in this country with the Restoration, when two of the Dutch yachts which accompanied King Charles II across the Channel were presented to him.

In early days it was no doubt a vessel used to convey important persons from one place to another, or from one country to another on ceremonial visits. So to-day the yacht is the vessel used to convey His Majesty to sea on state occasions, such as reviews, and is also the private pleasure craft of the wealthier people.

Charles II, like all the Stuarts, took a keen interest in the sea, and he often engaged in yacht racing with his brother who afterwards became King James II, and thus it gradually became a common practice for owners of pleasure craft to engage in competition with other owners; with a long coastline, this country was particularly favourable for the growth of yachting and the first officially registered yacht club or association was the Cork Harbour Water Club, now the Royal Cork Yacht Club.

The nineteenth century saw a tremendous boom and many of the craft used to congregate in the summer off the Isle of Wight, so in 1812 a club was formed at

## Yachts and Yachting

Cowes. The Prince Regent became a member and two years later the Club was reorganised. Soon after William IV came to the throne he gave authority for the club to take the name of *The Royal Yacht Squadron* and to-day this is the centre of British yachting and the most exclusive club in the world, for which something beyond financial greatness is necessary before a man may be eligible for election.

The Royal Yacht Squadron shares with the Royal Navy, and the Royal Naval Volunteer Reserve, the honour of wearing the White Ensign.

As time went on it was realised that a vessel which gave great comfort was not necessarily the ideal for racing purposes, and so the racing cutter was developed with fine lines and constructed of much lighter material than the roomier and sometimes luxuriously appointed "family" craft.

Yachting is popular in all the British Dominions and dependencies, although in most places the small yacht is in favour.

Many of the South American magnates have been attracted to this sport and there are some fine clubs in the Argentine, but the only foreign nation that has gone in for yacht racing on a large scale, with big yachts, is the United States, and the first large club to be formed there was the New York Yacht Club in 1844.

Seven years after this, that is, in 1851, the American schooner-yacht *America*, visited Cowes and carried off the cup which has since become famous as the "America's Cup," for which British yachts have been contesting off and on ever since.

The principal difficulty militating against British success is that a challenging yacht has to be sufficiently strongly built to cross the Atlantic and yet be sufficiently light to win races against a defender which is not handicapped in this way.



## Ships and the Sea

Races for the cup take place over a triangular course and a straight course, each of thirty miles, and the winning yacht has to win four out of seven races.

The races have been as follows:—

- 1870. *Magic* beat *Cambria*.
- 1871. *Columbia* beat *Livonia*.
- 1876. *Madeline* beat *Countess of Dufferin*.
- 1881. *Mischief* beat *Atlanta*.
- 1885. *Puritan* beat *Genesta*.
- 1886. *Mayflower* beat *Galatea*.
- 1887. *Volunteer* beat *Thist*.
- 1893. *Vigilant* beat *Valkyrie II*.
- 1895. *Defender* beat *Valkyrie III*.
- 1899. *Columbia* beat *Shamrock I*.
- 1901. *Columbia* beat *Shamrock II*.
- 1903. *Reliance* beat *Shamrock III*.
- 1920. *Resolute* beat *Shamrock IV*.
- 1930. *Enterprise* beat *Shamrock V*.
- 1934. *Rainbow* beat *Endeavour*.

All the *Shamrocks* were owned by the late Sir Thomas Lipton who devoted a fortune to yacht racing and whose principal ambition was to regain the cup for this country.

The last race, in 1934, was unfortunately marred by bad-feeling on both sides and it is unlikely that there will be another challenger for some considerable time.



## Yachts and Yachting

The size of these large modern yachts is considerable and some details of the last challenger, *Endeavour*, may be of interest.

<i>Displacement:</i>	143 tons.
<i>Length:</i>	83 feet on waterline and 130 feet overall.
<i>Beam:</i>	22 feet.
<i>Draught:</i>	15 feet.
<i>Height of mast:</i>	167 feet.
<i>Length of boom:</i>	66 feet.
<i>Sail Area:</i>	7,560 square feet.

Two other well known races for large yachts are the Fastnet Race, inaugurated in 1925 by the Royal Ocean Racing Club, and the Channel Race, inaugurated three years later and which is for rather smaller craft.

The rig of the large yachts has altered considerably in recent years and the former cutter with topsail and bowsprit has been almost exclusively superseded by the Bermuda rig, but some large yachts are rigged as schooners and others as yawls.

Racing with big yachts is a very expensive business and in the early part of the present century racing was at a very low ebb; revivals were attempted but the war intervened and it was not until the late King brought out his famous cutter *Britannia*, in 1920, that a real impetus was given to the sport.

In that year he sailed her on the Clyde and at Cowes and since then the Cowes week has been a triumphant success.

*Britannia* is the most famous racing cutter ever built and she was designed by the late Mr. G. L. Watson in 1893 for King Edward VII (then Prince of Wales); in her first season she took thirty-three prizes out of forty-three starts; in 1894 she took thirty-eight prizes out of forty-eight starts; in 1895, forty prizes out of fifty starts.

## Ships and the Sea

New yachts came out and some said that she was outclassed and the Prince sold her to Sir Richard Bulkeley, but he was not convinced that a craft which could take 147 prizes out of 219 starts in five consecutive years was really done for, and so he soon bought her back again.

New International rating rules and time allowances were introduced from time to time and it was difficult to arrange races in which *Britannia* could take part under the new rules.

After the war, however, in handicap races she more than held her own until she was converted to the modern Bermuda rig and this never seemed to suit her so well. *Britannia* wants real blowy and billowy weather, and given this she is second to none.

Apart from being purely a racing cutter, *Britannia* is very comfortably fitted inside and has a 20 foot-square, saloon. His late Majesty had an affection for her that was often not fully appreciated and when it was suggested that as a tribute from yachtsmen he should be given a brand new yacht to celebrate his Silver Jubilee, he would have none of it.

The measurements of this celebrated yacht are:—

<i>Tonnage:</i>	221, Thames measurement. 160 tons displacement.
<i>Length:</i>	123 feet overall.
<i>Beam:</i>	23½ feet.
<i>Draught:</i>	15 feet.
<i>Keel:</i>	90 tons.

Racing yachts for International purposes are grouped into various classes according to tonnage or length. The large yachts are usually referred to as being of the "J" Class or of the 12, 8 and 6 metre Classes.

VARIOUS TYPES OF YACHTS.



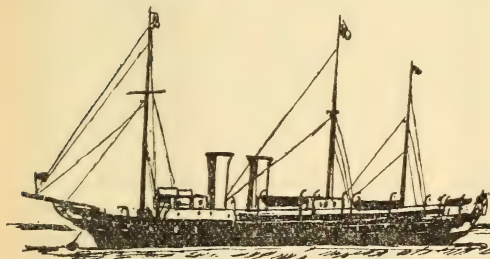
*Schooner Yacht.*



*Cutter.*



*Bermuda Rig.*



*H.M. Yacht "Victoria and Albert."*



*Motor Yacht,*

The largest British racing yachts are:—

ASTRA.

BRITANNIA.

CANDIDA.

ENDEAVOUR.

SHAMROCK V.

VELSHEDA.

### Sail Letters.

Sail letters are allotted to yachts of various countries for purposes of International Racing as follows:—

- A. Argentina.
- B. Belgium.
- C. Esthonia.
- D. Denmark.
- E. Spain.
- F. France.
- G. Germany.
- H. Netherlands.
- I. Italy.
- K. Great Britain and Ireland.
- KC. Canada.
- L. Finland.
- M. Hungary.
- N. Norway.
- O. Latvia.

## Yachts and Yachting

- P. Portugal.
- RC. Cuba.
- S. Sweden.
- U. Uruguay.
- Z. Switzerland.

Apart from the big racing yachts there is an ever growing number of small yachts and cabin cruisers of all sizes, and thousands of town dwellers spend their week-ends and holidays afloat.

When steamships became more economical, towards the end of last century, many wealthy people went in for steam yachts and some were almost like small liners, both on account of their size and by reason of the luxury of their furnishing and decoration and many of these craft performed excellent service during the war on auxiliary service as patrol boats, convoy sloops, examination vessels and such like things and others again were utilised as hospital ships.

The most beautiful steam yacht ever built is His Majesty's yacht *Victoria and Albert*, which, although getting on in years now, remains the loveliest thing afloat with her beautiful sheer and her two bell-topped funnels.

The motor and electric yacht is now taking the place of the steam vessel and there are some very large ones afloat.

### Some large Steam Yachts afloat to-day.

ALACRITY	1,830 gross tons.	352 feet long.	Built 1900.	British.
ATMAH	1,665    "   "	314   "   "	,, 1898.	,,
ERIN	1,116   "   "	270   "   "	,, 1905.	,,
IANARA	1,115   "   "	346   "   "	,, 1908.	,,
IOLANDA	1,715   "   "	310   "   "	,, 1908.	United States.

### Ships and the Sea

LIBERTY	1,607 gross tons.	304 feet long.	Built 1908.	British.
MAHA CHAKRI	2,162   "   "	340   "   "	"   1918.	Siam (H.M. The King).
MAHROUSSA	3,762   "   "	478   "   "	"   1865.	Egypt (H.M. The King).
NAHLIN	1,392   "   "	296   "   "	"   1930.	British.
SAPPHIRE	1,207   "   "	285   "   "	"   1912.	"   "
SAVARONA	4,646   "   "	409   "   "	"   1931.	United States.
SAVOIA	4,989   "   "	390   "   "	"   1923.	Italy (R. Navy).
VICTORIA AND ALBERT	5,005   "   "	439   "   "	"   1899.	British (Admiralty).

### Some large Motor and Electric Yachts afloat to-day.

ALVA	2,265 tons.	264 feet long.	Built 1931.	United States
CORSAIR	2,142   "   "	343   "   "	"   1930.	"   "
DANNEBROG	1,069   "   "	259   "   "	"   1931.	Denmark (R. Yacht).
FLYING CLOUD	1,179   "   "	204   "   "	"   1927.	United States.
HUSSAR	2,323   "   "	316   "   "	"   1931.	"   "
NOURMAHAL	1,969   "   "	264   "   "	"   1928.	"   "
ORION	3,097   "   "	333   "   "	"   1929.	"   "
ROSAURA	1,426   "   "	274   "   "	"   1905.	British.

### List of Principal Yacht Clubs in Great Britain.

British Yacht Clubs fly a rectangular flag, usually the Red or Blue Ensign, plain or defaced by a badge or device, except the Royal Yacht Squadron which flies the White Ensign.

## Yachts and Yachting

In addition the yachts fly a distinctive Burgee, as it is called, although it is actually shaped like a Pendant.

### ABBREVIATIONS

B.	Blue Ensign.	R.D.	Red Ensign defaced by badge.
R.	Red Ensign.	B.D.J.	Blue Ensign with defaced Jack.
B.D.	Blue Ensign defaced by badge.	R.D.J.	Red Ensign with defaced Jack.

### ROYAL YACHT CLUBS.

	<i>Name of Club</i>	<i>Established</i>	<i>Station</i>
B.	ROYAL ALBERT	1864	Southsea
R.	ROYAL ALFRED	1864	Kingstown, Co. Dublin
B.	ROYAL ANGLESEY	1802	Beaumaris, Anglesey
B.D.	ROYAL BURNHAM	1895	Burnham-on-Crouch
B.D.	ROYAL CHANNEL ISLANDS	1863	Jersey, C.I.
B.	ROYAL CINQUE PORTS	1872	Dover
B.	ROYAL CLYDE	1856	Glasgow
B.D.	ROYAL CORINTHIAN	1872	Burnham-on-Crouch
B.D.J.	ROYAL CORK	1720	Queenstown
B.D.	ROYAL CORNWALL	1871	Falmouth
B.	ROYAL CRUISING CLUB	1880	London
R.D.	ROYAL DART	1866	Kingswear
—	ROYAL DEE	1815	Liverpool
B.	ROYAL DORSET	1873	Weymouth
—	ROYAL EASTERN	1836	Edinburgh
B.	ROYAL ENGINEER	1845	Chatham
B.D.	ROYAL FORTH	1868	Edinburgh
R.D.	ROYAL FOWEY	1894	Fowey



# Ships and the Sea

	<i>Name of Club</i>	<i>Established</i>	<i>Station</i>
— .	ROYAL GALWAY . . .	— .	Galway
B. .	ROYAL GOUROCK . . .	1894 .	Gourock
B.D. .	ROYAL HARWICH . . .	1843 .	Harwich
B. .	ROYAL HIGHLAND . . .	1881 .	Oban
B.D. .	ROYAL IRISH . . .	1846 .	Kingstown
B. .	ROYAL LARGS . . .	1882 .	Largs
B.D. .	ROYAL LONDON . . .	1838 .	Cowes, I.O.W.
B.D. .	ROYAL MERSEY . . .	1844 .	Birkenhead
B. .	ROYAL MOTOR . . .	1905 .	Southampton.
— .	ROYAL MUNSTER . . .	— .	Crosshaven, Co. Cork
R.D. .	ROYAL NORFOLK AND SUFFOLK	1859 .	Lowestoft
B.D. .	ROYAL NORTH OF IRELAND	1892 .	Belfast
B. .	ROYAL NORTHERN . . .	1824 .	Rothesay
— .	ROYAL OCEAN RACING CLUB	— .	London
B.D. .	ROYAL PLYMOUTH		
	CORINTHIAN . . .	1877 .	Plymouth
B.D.J. .	ROYAL PORTSMOUTH		
	CORINTHIAN . . .	1880 .	Portsmouth
R.D. .	ROYAL ST. GEORGE . . .	1838 .	Kingstown, Co. Dublin
B.D.J. .	ROYAL SOUTHAMPTON . . .	1875 .	Southampton
B. .	ROYAL SOUTHERN . . .	1837 .	Southampton
B.D. .	ROYAL SOUTH WESTERN . . .	1890 .	Plymouth
— .	ROYAL TAY . . .	— .	Broughty Ferry
B. .	ROYAL TEMPLE . . .	1857 .	Ramsgate
B. .	ROYAL THAMES . . .	1775 .	London and Ryde, I.O.W.
B.D.J. .	ROYAL TORBAY . . .	1863 .	Torquay

## Yachts and Yachting

	<i>Name of Club</i>	<i>Established</i>	<i>Station</i>
B.D.	ROYAL ULSTER . . .	1866 .	Bangor
R.D.	ROYAL VICTORIA . . .	1844 .	Ryde, I.O.W.
B.D.	ROYAL WELSH . . .	1847 .	Carnarvon
B. .	ROYAL WESTERN (of England) . . .	1827 .	Plymouth
B. .	ROYAL WESTERN (of Scotland) . . .	1875 .	Glasgow
R.D.	ROYAL WINDERMERE . . .	— .	Bowness
W. .	ROYAL YACHT SQUADRON .	1815 .	East Cowes, I.O.W.
B.D.	ROYAL YORKSHIRE . . .	1847 .	Bridlington

### OTHER WELL KNOWN YACHT CLUBS IN BRITISH ISLES.

	<i>Name of Club</i>	<i>Established</i>	<i>Station</i>
	ALDEBURGH . . .	— .	Aldeburgh
	ALEXANDRA . . .	1873 .	Southend-on-Sea
	BALLYHOLME . . .	— .	Bangor, Co. Down
	BEMBRIDGE SAILING CLUB .	1886 .	Bembridge, I.O.W
	BENFLEET . . .	— .	South Benfleet
	BLACKPOOL AND FLEETWOOD	— .	Blackpool and Fleetwood
	BLACKWATER . . .	— .	Maldon
	BRISTOL . . .	— .	Bristol
	BRISTOL CHANNEL . . .	— .	Mumbles
	CASTLE . . .	— .	Lee-on-Solent
	CLYDE CORINTHIAN . . .	— .	Glasgow
	CLYDE CRUISING CLUB . .	— .	Glasgow

# Ships and the Sea

<i>Name of Club</i>	<i>Established</i>	<i>Station</i>
COLNE . . . . .	—	Brightlingsea
CROUCH . . . . .	—	Burnham-on-Crouch
CRUISING ASSOCIATION . . . . .	1908	London
ESSEX . . . . .	—	Leigh
GARELOCH . . . . .	—	Helensburgh
GREAT YARMOUTH . . . . .	—	Great Yarmouth
GUERNSEY . . . . .	—	Guernsey, C.I.
HOUSEHOLD BRIGADE . . . . .	—	Warsash
LITTLE SHIP CLUB . . . . .	—	London
LIVERPOOL . . . . .	—	New Brighton
LOUGH REE . . . . .	—	Athlone
LYMINGTON . . . . .	—	Hants
LYTHAM . . . . .	—	Lytham
MEDWAY . . . . .	1880	Rochester
MEDWAY CRUISING CLUB . . . . .	—	Gillingham
MOTOR BOAT ASSOCIATION . . . . .	—	London
MUDHOOK . . . . .	—	Glasgow
NARROW SEAS CLUB . . . . .	—	London
NORE . . . . .	1903	Southend-on-Sea
NORTHUMBERLAND . . . . .	—	Newcastle-on-Tyne
PEMBROKESHIRE . . . . .	—	Milford Haven
PENARTH . . . . .	—	Penarth
POOLE . . . . .	—	Poole
ST. HELIER . . . . .	—	St. Helier, C.I.
SOLENT . . . . .	1878	Yarmouth, I.O.W.
SUSSEX . . . . .	—	Southwick

## Yachts and Yachting

<i>Name of Club</i>	<i>Established</i>	<i>Station</i>
WALLASEY . . . . .	— .	New Brighton
WEST LANCASHIRE . . . . .	— .	Southport
WEST MERSEA . . . . .	— .	West Mersea
WESTCLIFF . . . . .	— .	Westcliff-on-Sea
WHITSTABLE . . . . .	— .	Whitstable

### A FEW IMPORTANT YACHT CLUBS IN BRITISH DOMINIONS AND DEPENDENCIES.

	<i>Name of Club</i>	<i>Established</i>	<i>Station</i>
B.D.	GIBRALTAR YACHT CLUB . . . . .	1829 .	Gibraltar
R. .	HOLDFAST BAY . . . . .	1883 .	South Australia
B.D.	ROYAL BERMUDA . . . . .	1844 .	Bermuda
B.D.	ROYAL BOMBAY . . . . .	1846 .	Bombay
B.D.	ROYAL JAMAICA . . . . .	1884 .	Jamaica
B.D.	ROYAL NATAL . . . . .	1858 .	S. Africa
B. .	ROYAL NEW ZEALAND YACHT SQUADRON . . . . .	1871 .	Auckland
B. .	ROYAL PERTH . . . . .	1875 .	Perth
B.D.	ROYAL PRINCE ALFRED . . . . .	1867 .	Sydney
B. .	ROYAL QUEENSLAND . . . . .	1885 .	Brisbane
B. .	ROYAL SOUTH AUSTRALIAN YACHT SQUADRON . . . . .	1869 .	Port Adelaide
B.D.	SHANGHAI . . . . .	1870 .	Shanghai
B. .	ROYAL SYDNEY YACHT SQUADRON . . . . .	1862 .	Sydney

## Ships and the Sea

### SOME WELL KNOWN FOREIGN YACHT CLUBS.

<i>Name of Club</i>	<i>Established</i>	<i>Station</i>
ASSOCIAÇÃO NAVAL DE LISBOA .	1851 .	Lisbon, Portugal
CLUB NAVAL DE LISBOA .	1892 .	Lisbon, Portugal
NEW YORK YACHT CLUB .	1844 .	New York, U.S.A.
REAL CLUB CANOTTIERI ITALIA .	1889 .	Naples, Italy
REGIO YACHT CLUB ITALIANO .	1883 .	Naples, Italy
ROYAL DANISH YACHT CLUB .	1866 .	Copenhagen, Denmark
ROYAL NETHERLANDS YACHT CLUB	1847 .	Amsterdam, Holland
ROYAL NORWEGIAN YACHT CLUB .	1883 .	Oslo, Norway
ROYAL SWEDISH YACHT CLUB .	1830 .	Stockholm, Sweden
ROYAL YACHT CLUB DE BELGIQUE .	1851 .	Antwerp, Belgium
ROYAL YACHT CLUB D'OSTENDE .	1853 .	Ostend, Belgium
YACHT CLUB ARGENTINO .	1883 .	Buenos Ayres, Argentina
YACHT CLUB DE FRANCE .	1857 .	Paris, France

## CHAPTER XVIII

# Fishing Boats and the Fishing Industry

FISHING is one of the many things that most of us take for granted in this materially-minded age.

It is, perhaps, the oldest industry in the world, and although science has introduced improvements in this, as in most other trades, the main changes have been, perhaps, the increase in size and efficiency of the ships; sail gave way in most cases to steam, and steam is being supplanted in many cases by the internal combustion engine.

The hazards of the calling remain the same and it would be a good education if people would go to sea in a trawler for one voyage in the ordinary weather prevailing round our coasts during the winter.

All over the world fishing of some kind or another goes on, and many weird craft are used in different parts, but we must confine ourselves to British vessels.

Many rigs of sailing smacks were and perhaps still are in existence in home waters, but the best known was probably the Brixham trawler; before the war this fleet ran into many hundreds, but the number is sadly diminished to-day.

The Brixham smacks were famous in the days of Queen Elizabeth and were probably the first deep-sea fishing craft in these waters; they ventured further afield and soon discovered that the North Sea fishing grounds opened up great prospects, especially the Dogger Bank, which quickly became the happy hunting ground for East Coast fishermen who joined with the craft from Devon.

## Ships and the Sea

In the beginning it was a case of each boat for itself, but it was very early recognised that by co-operating better results for all could be obtained, and so fleets were organised under the command of an "admiral" whose orders were rigidly obeyed; he was one of the most experienced fishermen and selected the ground and gave orders for the shooting and drawing in of nets; by this method fleets remained on a ground for many weeks and their daily catch was transferred to special carriers who collected the catch and returned to the land.

By the end of the nineteenth century there were four regular fleets, each numbering about 150 vessels, working constantly in the North Sea, but during the last twenty years or so of this century, steam made its appearance, at first to take the place of the swift-sailing carriers and quickly after that to supplant the trawlers themselves.

Staunch as were these sailing smacks or Dandies, as the later types were called, disaster often overcame them and one of the worst disasters took place when the Dogger fleet was caught by a tremendous storm in 1881 and it is said that in one East Coast fishing town alone, over two hundred women were widowed by this one storm.

Soon after this, experiments were made with steam trawlers, and this proved so successful that with astonishing swiftness sail almost disappeared.

At the present time the same system of trawler fleets is in operation, (although this may not last much longer) and this custom of working together and of obeying orders proved of tremendous value during the war, when the fishermen of England left their profitable occupations and shot their nets to sweep up the minefields; this is a side of the war at sea that has never been adequately told and the debt that everyone owes to these splendid men in peacetime mounted to unredeemable heights; how many ships and men were lost has never been told and probably never will.

Each fleet is a self-contained community with its own store ships, mother ships, hospital ships and so on, and fleets go as far afield as the Arctic Seas, the Bay of Biscay and even to the Northern coasts of Africa.



## Fishing Boats and the Fishing Industry

Large fleets are usually looked after by a Fishery Protection Gunboat, whose duty it is to see that the vessels are not molested by any ill-intentioned persons, and to see that territorial waters are not encroached upon.

With their nets out a fishing fleet occupies a huge stretch of sea and many have been the mutual recriminations in the past when perhaps some destroyer on manœuvres has blundered into the middle of a drifter fleet because (never let it be whispered abroad) in the old days fishing vessels sometimes had a rooted objection to exhibiting the necessary lights, as laid down in the book of the words governing such things.

The two chief methods of fishing to-day are *trawling* and drifting. In the former, the ship keeps moving and lowers what is termed an otter trawl, which is a large net about 120 feet or so wide at the mouth and about 25 feet long, tapering to a point; midway is a sort of valve by which the fish enter from the wide mouth but through which they cannot return. A *drifter*, on the other hand, carries about a hundred nets, which are played over the side and are buoyed and weighted so that they lie in the sea in the form of a solid wall about fifty feet deep and up to two miles in length; into this wall the fish swim and are caught by their gills in the meshes; having shot the nets the vessels just drift with the tide and currents.

This method is principally used for herring fishing, when anything like twelve hundred drifters operate from Lowestoft and Yarmouth alone during the season. Such a fleet would cast nets totalling about two thousand miles in length.

Hull specialises in Arctic fishing for the cheaper varieties of fish and sixty Hull trawlers form a "boxing fleet" which remains at sea for about six weeks at a time. Cod and halibut are caught off the Greenland coast during the summer at depths up to 500 fathoms (3,000 feet).

Whale oil factories have increased very largely in numbers during the last few years. Some very well known old liners, such as *Persic* and *Runic* of the White Star Line, have been converted for this purpose; others are converted oil tankers, and others

## **Ships and the Sea**

again have been especially designed and constructed for the purpose. These craft accompany a fleet of small whalers or trawlers which convey the catch to the factory ship, which then proceeds to extract the oil from the carcase and to convert the rest into cattle food and so on.

There are still a large number of "single boaters" working on their own, independent of the fleets, and these are usually larger than vessels which are units of a fleet, and are likely to increase in numbers in the next few years.

A good-sized modern steam or motor trawler will average about 400 tons and will be about 150 feet in length with a speed of anything up to twelve knots, and she will probably be equipped with directional wireless or wireless telephony and echo-sounding devices. Drifters are very considerably smaller than trawlers but their appearance is much the same.

All fishing vessels, steam or sail, are marked with letters to distinguish their home port; more often than not the first and last letters of that port are used but there are many exceptions; the list on page 260 will give the principal registration marks to be seen round our coasts. In addition to this lettering, each vessel is allotted a registration number.

In the case of sailing smacks, both the lettering and number must be painted in white on both bows and on mainsail.

In motor boats, mizzen sails are to be marked in addition.

In case of steamers it must be painted on both bows and quarters and on front of funnels, and it is more often than not exhibited on any auxiliary sails that such a craft may carry.

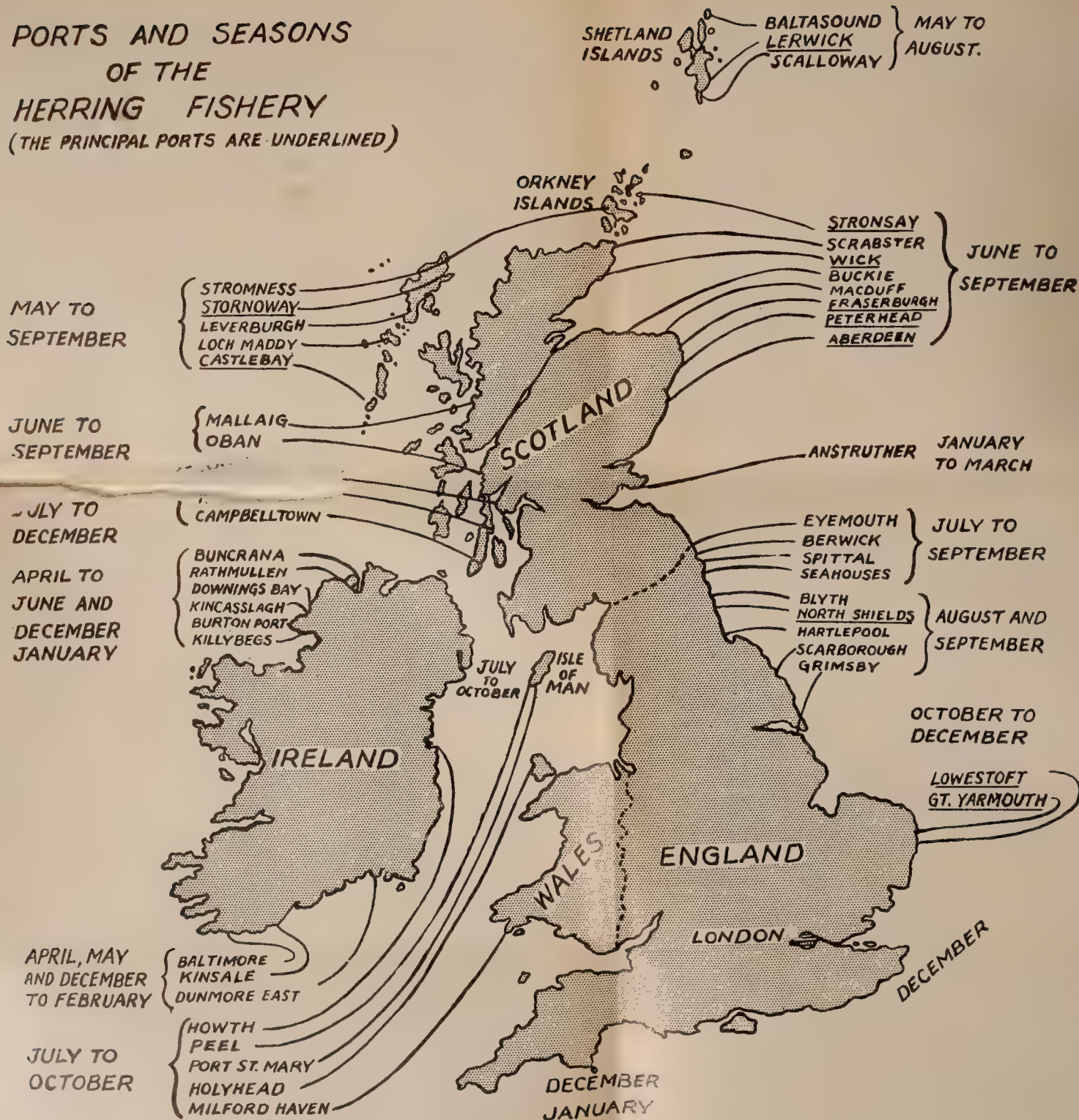
When not engaged in fishing, all fishing craft exhibit lights prescribed for vessels of their tonnage as discussed in an earlier chapter.

When fishing with drift nets, vessels must show two white lights where they can best be seen; the vertical distance being not less than six feet nor more than fifteen





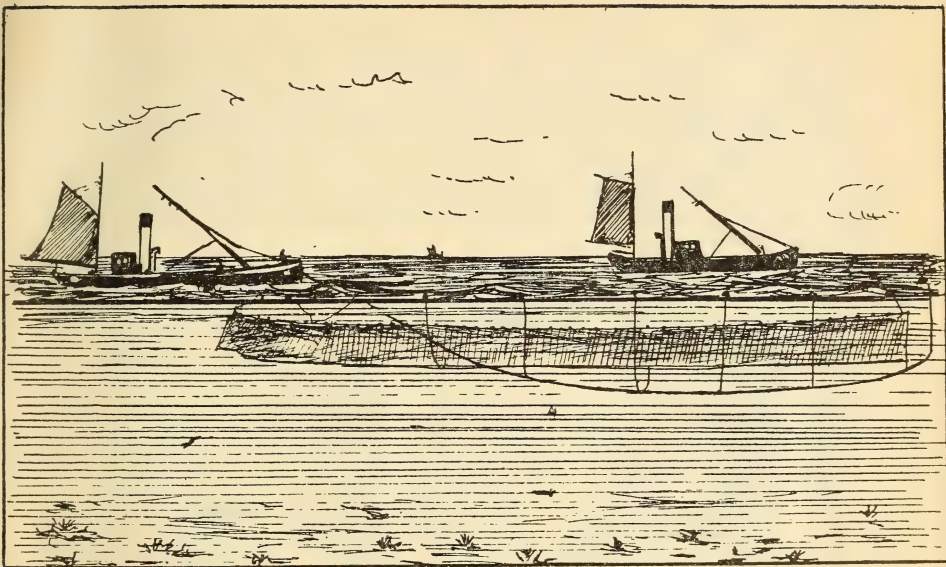
# PORTS AND SEASONS OF THE HERRING FISHERY (THE PRINCIPAL PORTS ARE UNDERLINED)







DRIFTERS AT WORK





## **Ships and the Sea**

feet, the horizontal distance not less than five nor more than ten feet; the lower of these lights is to be in the direction of the nets.

Vessels engaged in trawling, by which is meant the dragging of an apparatus along the sea bottom, carry a three-coloured lantern showing a white light from right ahead to two points on each bow, green light to starboard and red light to port; not less than six feet nor more than twelve feet below this lantern is to be exhibited another bright white light throwing an unbroken light all round the horizon.

One often hears a catch referred to by number of *crans*, which is an official measure and which applies to baskets or boxes; actually quarter-cran measures are more often than not dealt with and roughly a quarter-cran box is 31 inches in length,  $14\frac{3}{4}$  in breadth and 7 inches in depth, but how many fish this holds I leave to you to work out for me.

### **Distinguishing Marks of British Trawlers.**

#### **ENGLAND.**

BE.	BARNSTAPLE	E.	EXETER
BW.	BARROW	FH.	FALMOUTH
BK.	BERWICK	F.	FAVERSHAM
BD.	BIDEFORD	FD.	FLEETWOOD
BH.	BLYTH	FE.	FOLKESTONE
BN.	BOSTON	FY.	FOWEY
BL.	BRISTOL	GY.	GRIMSBY
BM.	BRIXHAM	HL.	HARTLEPOOL WEST
CK.	COLCHESTER	HH.	HARWICH
CS.	COWES	H.	HULL
DR.	DOVER.	LR.	LANCASTER

# Fishing Boats and the Fishing Industry

## ENGLAND—*cont'd.*

LI.	LITTLEHAMPTON	RX.	RYE
LL.	LIVERPOOL	SS.	ST. IVES
LO.	LONDON	SH.	SCARBOROUGH
LT.	LOWESTOFT	SC.	SCILLY
LN.	KING'S LYNN	SN.	NORTH SHIELDS
MH.	MIDDLESBROUGH	SSS.	SOUTH SHIELDS
NN.	NEWHAVEN	SM.	SHOREHAM
NT.	NEWPORT	SU.	SOUTHAMPTON
PW.	PADSTOW	ST.	STOCKTON
PZ.	PENZANCE	SD.	SUNDERLAND
PH.	PLYMOUTH	TN.	TEIGNMOUTH
P.	PORTSMOUTH	WY.	WHITBY
PN.	PRESTON	WA.	WHITEHAVEN
R.	RAMSGATE	YH.	YARMOUTH
RR.	ROCHESTER		

## IRELAND.

B.	BELFAST	N.	NEWRY
C.	CORK	S.	SKIBBEREEN
D.	DUBLIN	SO.	SLIGO
DK.	DUNDALK	T.	TRALEE
G.	GALWAY	W.	WATERFORD
L.	LIMERICK	WT.	WESTPORT
LY.	LONDONDERY	WD.	WEXFORD

## **Ships and the Sea**

### **ISLE OF MAN.**

CT. CASTLETOWN  
DO. DOUGLAS

PL. PEEL  
RY. RAMSEY

### **SCOTLAND.**

A. ABERDEEN  
AA. ALLOA  
AH. ARBROATH  
BF. BANFF  
BO. BORROWSTONES  
BRD. BROADFORD  
BCK. BUCKIE  
CN. CAMPBELTOWN  
CY. CASTLEBAY  
DE. DUNDEE  
FR. FRASERBURGH  
GW. GLASGOW  
GH. GRANGEMOUTH  
GN. GRANTON  
GK. GREENOCK  
INS. INVERNESS

KY. KIRKCALDY  
K. KIRKWALL  
LH. LEITH  
LK. LERWICK  
ML. METHIL  
ME. MONTROSE  
OB. OBAN  
PEH. PERTH  
PD. PETERHEAD  
RO. ROTHESAY  
SY. STORNOWAY  
SR. STRANRAER  
TT. TARBERT  
UL. ULLAPOOL  
WK. WICK

### **WALES.**

AB. ABERYSTWYTH  
BS. BEAUMARIS  
CF. CARDIFF

CO. CARNARVON  
M. MILFORD  
SA. SWANSEA

## CHAPTER XIX

# Royal National Life-Boat Institution

IT should require little imagination to understand what the life-boat service means to all of us, and understanding, we must be amazed and our hearts should beat a little faster when we ponder over the courage of the men who man them; courage of the highest order because the men know full well what they are up against.

A life-boat is admittedly a craft designed and constructed with the object of battling against almost any weather, and she is as near the unsinkable ship as it has been possible yet to come, but how many of us would push ourselves forward to face all the most awful forces of nature that it is possible to conceive? When we are cowering in our homes, afraid to go outside because half a gale is blowing and it is as much as we could do to keep our feet, men are volunteering to ride into the teeth of the storm because someone is in distress somewhere out in that inky maelstrom which screams and bubbles like a witch's cauldron.

Seamen say that there is not much to fear in the worst storm as long as there is plenty of sea-room; life-boats go to those very places where there is no sea-room; to dreadful iron-bound coasts where perhaps a ship is wedged between tooth-like rocks beneath a towering immensity of perpendicular cliff, or to banks of treacherous shifting sand which momentarily threatens to engulf the unhappy wreck.

Having faced the elements and come up to the wreck, marvels of seamanship skill and infallible judgment are needed to effect a rescue when every wave threatens

## Ships and the Sea

to overwhelm the life-boat or to carry it forward and dash it to destruction on the very wreck which it has come to succour.

Remember again that these men are for the most part fishermen who have never been trained to discipline like the men in the Fighting Services, and the admiration for the spirit and organization of the life-boat service will deepen.

Curiously enough, the first Englishman who concentrated upon the idea of building a boat of special buoyancy was a London coach-builder named Lionel Lukin, and as far back as 1784 he had experimented with an old yawl, but his plan was not necessarily to make a boat especially for life-saving purposes but rather to make all boats more secure.

He was, however, associated with the very first attempt to establish a life-boat station on our coast.

In 1789 an association of gentlemen of Newcastle called "The Gentlemen of the Lawe House," which latter overlooked the mouth of the Tyne, offered a prize of two guineas for a plan or model of a boat capable of facing the heavy weather in that neighbourhood. From the design submitted by William Wouldhave an actual model, incorporating several ideas of other gentlemen, was made and *The Original*, as she was named, was constructed by Henry Greathead from that model. This vessel remained in commission until 1830, when she was dashed to pieces after saving hundreds of lives during the period of her service.

The experiment was successful and by 1803 Greathead had built thirty-one boats, including eight for foreign countries which were becoming interested in the idea.

In 1807, Lukin, the coach-builder before mentioned, designed the first sailing life-boat for the Suffolk Humane Society, and she was the fore-runner of the famous Norfolk and Suffolk type of boat.

In 1824 there were thirty-nine life-boats stationed on the coasts, and in that year

## Royal National Life-Boat Institution

was established the Royal National Life-Boat Institution to organise the whole of the scattered stations.

The founder was a native of the Isle of Man, Colonel Sir William Hillary, Bt., who had witnessed many dreadful shipwrecks and who was determined to do what he could to alleviate the suffering of ship-wrecked men.

In 1823 he drew up an appeal and set out his plan for an organisation which remains to-day very much the same in principle, and Royal Patronage was secured from the start.

Originally the work included the care of the shipwrecked after the rescue, and the establishing of rocket apparatus on shore, but in 1854 the Shipwrecked Fishermen and Mariners' Society took over the former and the Board of Trade in 1855 assumed the liability for the rocket apparatus.

Sir William himself took part in many rescues, in one of which he was severely injured and he continued until well over sixty years of age, taking part in the saving of 305 lives.

In 1838 Grace Darling's share in the rescue of the crew of the *Forfarshire* shed a light on the activities of the Institution's work which will never be allowed to go out although by 1849 public interest had so far diminished that its income had dwindled to just over £350. In that year, however, disaster had overtaken the Tyne life-boat and twenty of her crew of twenty-four had lost their lives, and this undoubtedly helped to recall the public to their responsibility.

To-day the Institution's record stands at close upon 65,000 lives saved, and this means an average of 11 lives every week for 112 years.

65,000 men marching in fours would take five hours to pass a given point: imagine yourself at the top of a great staircase welcoming your guests as they file up the stairs to shake your hand; you would be standing there for over twenty hours.

Eastbourne is a large city but its population is not 65,000.

## **Ships and the Sea**

At the present time there are about 120 motor life-boats stationed round the 5,000 miles of British coast, and nearly fifty pulling or sailing craft—less than there were some years ago, but of infinitely more value on account of their increased radius, speed and efficiency.

The work of the Institution is tremendous and does not end with the providing and maintaining of the boats themselves; life-boat slipways and launching platforms have to be provided and dependants of those gallant men who lose their lives have to be looked after.

In addition to the life-boats regularly in use there are three motor and fifteen pulling boats in reserve at the Institution's yard at Poplar on the Thames.

This great British work is carried on entirely by voluntary subscriptions, and it costs nearly £250,000 annually to enable it to hold its own.

The cost of a large motor life-boat is £9,000, and of one of smaller type £6,000 or £3,250. £20 will provide a line-throwing gun and £925 an engine for a motor boat.

### **Life-boats and their Construction.**

A life-boat is a small vessel capable of standing up to weather which has disabled larger ones—perhaps a hundred times its own size.

She has great strength, the power to empty herself of water as fast as she takes it in, and great buoyancy.

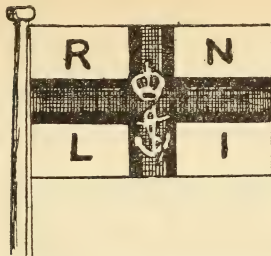
Her strength is secured by building her of specially chosen woods of many kinds and by giving her a double skin.

She empties herself of water through scuppers or valves in the bottom and sides which will free a boat in twelve seconds even if she has been filled to the thwarts.

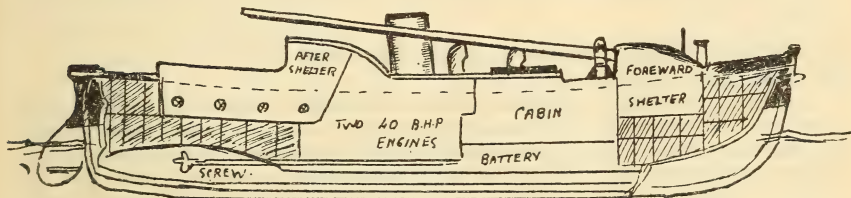
Every boat is divided into from seven to fourteen water-tight compartments and is fitted with from seventy to 160 air cases.



ROYAL NATIONAL LIFE-BOAT INSTITUTION



*Flag. Red Cross bordered with blue ; Gold Crown and Anchor ; Red letters.*



*45-foot Twin-Screw Motor Life-Boat. Lightly shaded portions are Flotation Boxes.*

There is another type called the Self-righting type. With all sails set and a hole in the bottom, such a boat will right herself in four seconds even if turned completely over, but only the smaller craft are built on this principle because they are less easy to handle in heavy weather and they are more liable to capsize.

The engine goes on with its work even when the boat is flooded, and it can run although completely submerged; it has two magnetos and two sets of sparking plugs and it gives a speed of from seven to ten knots with an enormous reserve of power in case of need.

Before the days of the internal combustion engine there were six steam life-boats in use, the first being introduced in 1890 and the last withdrawn in 1928.

In 1903 the first experiments with the motor-driven boat were made and until the introduction of the first twin-screw boat in 1923 all such craft carried a full set of sails.

The modern twin-screw boat has engines up to 80 horse power each, but the most powerful life-boat in the world is stationed at Dover and she has two engines of 375 horse power each, and she is used specially to protect the heavy passenger traffic in the Straits as well as to look after the cross-channel aeroplanes, having a speed of eighteen knots.

### The Institution's Motor Life-boats. Types Now Being Built.

#### 51 FEET BARNETT (STROMNESS) TYPE.

A cabin motor life-boat, 51 feet by 13 feet 6 inches. On service, with crew and gear on board, she weighs  $26\frac{1}{2}$  tons. She is divided into seven water-tight compartments, and is fitted with 160 air-cases. She has twin screws, and is driven by two 60 horse power engines. The engine-room is a water-tight compartment, and each engine is itself water-tight, so that it could continue running even if the engine-room were flooded. Her speed is just under nine knots, which, having regard to her speed-length ratio, is equivalent to a speed of nearly thirty-five knots in a vessel the size

## Royal National Life-Boat Institution

of the *Mauretania*. She carries enough petrol to be able to travel 120 miles, at full speed, without refuelling. She carries a crew of eight, and in rough weather can take 100 people on board. She has a cabin, a line-throwing gun, and an electric search-light, is lighted throughout with electricity, and is fitted with an oil-spray in the bows to make smooth the water round the wreck.

### 46 Feet Watson Cabin Type

A cabin motor life-boat, 46 feet by 12 feet 9 inches. On service, with crew and gear on board, she weighs  $19\frac{1}{4}$  tons. She is divided into seven water-tight compartments, and is fitted with 142 air-cases. She has twin screws, and is driven by two 40 horse power engines. The engine-room is a water-tight compartment, and each engine is itself water-tight, so that it could continue running even if the engine-room were flooded. Her speed is  $8\frac{1}{4}$  knots. She carries enough petrol to be able to travel 116 miles, at full speed, without refuelling. She carries a crew of eight, and in rough weather can take ninety-five people on board. She has a line-throwing gun and an electric search-light, and is lighted throughout with electricity.

### 41 Feet Beach (Aldeburgh) Type

A motor life-boat, 41 feet by 12 feet 3 inches, specially designed for stations where conditions at sea require a fairly large and heavy type, but where it is impossible to station the Barnett or Watson cabin type, as the boat has to be light enough to be launched off the beach. On service, with crew and gear on board, she weighs  $16\frac{1}{2}$  tons. She is divided into seven water-tight compartments, and is fitted with 135 air-cases. She has twin screws, and is driven by two 35 horse power engines. They are in a water-tight engine-room and are themselves water-tight so that they could continue running even if the engine-room were flooded. Her speed is just over  $7\frac{1}{2}$  knots, and she carries enough petrol to be able to travel 116 miles, at full speed,

## **Ships and the Sea**

without refuelling. She carries a crew of ten, and in rough weather can take eighty-five people on board. She has a line-throwing gun and an electric search-light, and is lighted by electricity.

### **41 Feet Watson Type**

A motor life-boat, 41 feet by 11 feet 8 inches. On service, with crew and gear on board, she weighs just over fifteen tons. She is divided into five water-tight compartments and is fitted with 145 air-cases. She has twin screws, driven by two 35 horse power engines. The engine-room is a water-tight compartment, and each engine is itself water-tight, so that it could continue running even if the engine-room were flooded. Her speed is just over eight knots, and she carries enough petrol to be able to travel 130 miles, at full speed, without refuelling. She carries a crew of eight, and in rough weather can take fifty people on board. She has two cock-pits, a line-throwing-gun, and an electric search-light, and is lighted by electricity.

### **35 Feet 6 Inches Self-righting Type**

A light type of motor life-boat, 35 feet 6 inches by 9 feet 3 inches, specially designed for stations where the life-boat has to be launched off a carriage or the open beach. On service, with crew and gear on board, she weights  $6\frac{1}{2}$  tons. She is divided into six water-tight compartments, and is fitted with 115 air-cases. If a sea breaks on board she can free herself in twelve seconds, and if she were capsized, even with a hole in her bottom, she could right herself in four seconds. She has one screw, driven by a 35 horse power engine in a water-tight engine-room. The engine itself is water-tight, so that it could continue running even if the engine-room were flooded. Her speed is  $7\frac{1}{2}$  knots, and she carries enough petrol to be able to travel 100 miles at full speed without refuelling. She carries a crew of seven, and can take thirty people on board in rough weather.

## Royal National Life-Boat Institution

### 35 Feet 6 Inches Liverpool Type

A light type of motor life-boat, 35 feet 6 inches by 10 feet 3 inches, specially designed for stations where the life-boat has to be launched off a carriage or the open beach. She is broader in the beam than the light self-righting type, and, though she cannot self-right, is much less likely to capsize. On service, with crew and gear on board, she weighs 7 tons. She is divided into six water-tight compartments, and is fitted with 115 air-cases. If a sea breaks on board she can free herself in twelve seconds. She has one screw, driven by a 35 horse power engine in a water-tight engine-room. The engine itself is water-tight, so that it could continue running even if the engine-room were flooded. Her speed is  $7\frac{1}{3}$  knots, and she carries enough petrol to be able to travel 100 miles at full speed without refuelling. She carries a crew of seven, and can take thirty people on board in rough weather.

### Life-boat Stations of the Royal National Life-boat Institution.

Corrected to 31st December, 1935 from information kindly supplied by the Institution.

M. indicates a motor life-boat.

P. indicates a pulling and sailing life-boat.

S.R. indicates a self-righting life-boat.

#### England.

##### NORTHUMBERLAND.

Berwick-on-Tweed	.	M. (S.R.)	Built in	1930
Holy Island	.	M.	"	1925
North Sunderland	.	P. (S.R.)	"	1909
Boulmer	.	M. (S.R.)	"	1927

# **Ships and the Sea**

## England—*contd.*

Hauxley . . .	P. (S.R.)	Built in	1902
Cresswell . . .	P. (S.R.)	„	1909
Newbiggin . . .	P. (S.R.)	„	1911
Blyth . . .	M.	„	1921
Cullercoats . . .	P. (S.R.)	„	1907
Tynemouth . . .	M. (S.R.)	„	1917

### **DURHAM.**

Sunderland . . .	M. (S.R.)	„	1911
Seaham . . .	M.	„	1910
Hartlepool . . .	M.	„	1924

### **YORKSHIRE.**

Teesmouth . . .	M.	„	1924
Redcar . . .	M. (S.R.)	„	1931
Staithes . . .	P. (S.R.)	„	1900
Runswick . . .	M.	„	1933
Whitby . . .	M. (S.R.)	„	1918
	P. (S.R.)	„	1907
Scarborough . . .	M. (S.R.)	„	1931
Filey . . .	P. (S.R.)	„	1907
Flamborough . . .	M.	„	1934
	P. (S.R.)	„	1910
Bridlington . . .	M. (S.R.)	„	1931
Humber . . .	M.	„	1929

# Royal National Life-Boat Institution

## England—*contd.*

### LINCOLNSHIRE.

Skegness	.	.	M.	.	Built in 1932
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### NORFOLK.

Wells	.	.	P.	.	„ 1916
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			M.	.	„ 1936
--	--	--	----	---	--------

Sheringham	.	.	P.	.	„ 1904
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Cromer	.	.	M.	.	„ 1924
--------	---	---	----	---	--------

			M.	.	„ 1934
--	--	--	----	---	--------

Caister	.	.	P.	.	„ 1904
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Great Yarmouth and					
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Gorleston	.	.	M.	.	„ 1923
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### SUFFOLK.

Lowestoft	.	.	M.	.	„ 1920
-----------	---	---	----	---	--------

Kessingland	.	.	P.	.	„ 1912
-------------	---	---	----	---	--------

Southwold	.	.	M.	.	„ 1925
-----------	---	---	----	---	--------

Aldeburgh	.	.	M.	.	„ 1931 (On Beach)
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### ESSEX.

Walton and Frinton	.		M.	.	„ 1928
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Clacton	.	.	M.	.	„ 1929
---------	---	---	----	---	--------

Southend	.	.	M.	.	„ 1928
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### KENT.

Margate	.	.	M.	.	„ 1924
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Ramsgate	.	.	M.	.	„ 1925
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# **Ships and the Sea**

## **England—*contd.***

Walmer . . .	M.	Built in 1933 (Beach)
Dover . . .	M.	„ 1929. (Special fast boat to go to help of aeroplanes as well as ships.)
Hythe . . .	M.	„ 1929
Dungeness . . .	P.	„ 1912
	M.	„ 1933 (Beach)

### **SUSSEX.**

Hastings . . .	M. (S.R.)	„ 1931
Eastbourne . . .	M. (S.R.)	„ 1922
Newhaven . . .	M.	„ 1930
Shoreham Harbour . . .	M.	„ 1933
Selsey . . .	M.	„ 1928

### **ISLE OF WIGHT.**

Bembridge . . .	M. (S.R.)	„ 1922
Yarmouth . . .	M.	„ 1923
Brooke . . .	P. (S.R.)	„ 1907

### **JERSEY.**

ST. HELIER . . .	P. (S.R.)	„ 1911
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### **GUERNSEY.**

St. Peter Port . . .	M.	„ 1929
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### **DORSET.**

Poole and Bournemouth . . .	P. (S.R.)	„ 1910
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# Royal National Life-Boat Institution

## England—*contd.*

Swanage . . .	M. (S.R.)	Built in 1928
Weymouth . . .	M. . .	„ 1930
SOUTH DEVON.		
Exmouth . . .	M. (S.R.)	„ 1933
Teignmouth . . .	P. (S.R.)	„ 1911
Torbay . . .	M. . .	„ 1930
Salcombe . . .	M. (S.R.)	„ 1922
Plymouth . . .	M. . .	„ 1926
CORNWALL.		
Fowey . . .	M. . .	„ 1928
Falmouth . . .	M. . .	„ 1924
Porthoustock . . .	P. (S.R.)	„ 1911
Coverack . . .	M. . .	„ 1934
Cadgwith . . .	P. (S.R.)	„ 1918
The Lizard . . .	M. . .	„ 1934
Penlee . . .	M. . .	„ 1931
Sennen Cove . . .	M. (S.R.)	„ 1922
SCILLY ISLANDS.		
St. Mary's . . .	M. . .	„ 1930
CORNWALL		
St. Ives . . .	M. (S.R.)	„ 1933
Padstow . . .	M. (S.R.)	„ 1931
	M. . .	„ 1929

# **Ships and the Sea**

## **England—*contd.***

### **NORTH DEVON.**

Clovelly . . .	P. (S.R.)	Built in	1907
Appledore . . .	M. (S.R.)	„	1922
Ilfracombe . . .	P. (S.R.)	„	1910
Lynmouth . . .	P. (S.R.)	„	1906

### **SOMERSET.**

Minehead . . .	P. . .	„	1912
Watchet . . .	P. (S.R.)	„	1901
Weston-Super-Mare .	M. . .	„	1933

## **Wales.**

### **GLAMORGANSHIRE.**

Barry Dock . . .	M. . .	„	1922
The Mumbles . . .	M. . .	„	1924

### **CARMARTHENSHIRE.**

Ferryside . . .	P. (S.R.)	„	1907
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### **PEMBROKESHIRE.**

Tenby . . . . .	M. . .	„	1930
Angle, Milford Haven	M. . .	„	1929
St. David's . . .	M. (S.R.)	„	1911
Fishguard . . .	M. . .	„	1930

### **CARDIGANSHIRE.**

New Quay . . .	P. . .	„	1907
Aberystwyth . . .	M. (S.R.)	„	1932 .

# Royal National Life-Boat Institution

## Wales—*contd.*

### MERIONETHSHIRE.

Barmouth	.	.	P.	.	Built in 1905
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### CAERNARVONSHIRE.

Pwllheli	.	.	M.	.	„ 1912
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Porthdinllaen	.	.	M.	.	„ 1925
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### ANGLESEY.

Holyhead	.	.	M.	.	„ 1929
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Moelfre	.	.	M.	.	„ 1930
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Beaumaris	.	.	M.	.	„ 1913
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### CAERNARVONSHIRE.

Llandudno	.	.	M. (S.R.)	.	„ 1933
-----------	---	---	-----------	---	--------

### FLINTSHIRE.

Rhyl	.	.	P.	.	„ 1896
------	---	---	----	---	--------

## England.

### CHESHIRE.

Hilbro Island	.	.	P.	.	„ 1901
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Hoylake	.	.	M.	.	„ 1931
---------	---	---	----	---	--------

New Brighton	.	.	P.	.	„ 1905
--------------	---	---	----	---	--------

	.	.	M.	.	„ 1923
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### LANCASHIRE.

Lytham-St.-Annes	.	.	M. (S.R.)	.	„ 1931
------------------	---	---	-----------	---	--------

Blackpool	.	.	P.	.	„ 1905
-----------	---	---	----	---	--------

Fleetwood	.	.	M. (S.R.)	.	„ 1912
-----------	---	---	-----------	---	--------

Barrow	.	.	M.	.	„ 1927
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# Ships and the Sea

## England—*contd.*

### CUMBERLAND.

Maryport	.	.	M.	.	Built in 1934
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### ISLE OF MAN.

Ramsey	.	.	M. (S.R.)	„	1931
Douglas	.	.	M.	„	1924
Port St. Mary	.	.	P. (S.R.)	„	1906
Port Erin	.	.	M. (S.R.)	„	1917
Peel	.	.	P. (S.R.)	„	1912

## Scotland.

### KIRCUDBRIGHTSHIRE.

Kircudbright	.	.	M. (S.R.)	„	1931
--------------	---	---	-----------	---	------

### WIGTOWNSHIRE.

Portpatrick	.	.	M.	„	1929
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### AYRSHIRE.

Girvan	.	.	M. (S.R.)	„	1931
Troon	.	.	M.	„	1929

### ARGYLLSHIRE.

Port Askaig	.	.	M. (S.R.)	„	1920
Campbeltown	.	.	M.	„	1929

### HEBRIDES.

Barra Island	.	.	M.	„	1932
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# Royal National Life-Boat Institution

## Scotland—*contd.*

### ISLAND OF LEWIS.

Stornoway	.	.	M.	.	Built in 1929
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### ORKNEYS.

Longhope	.	.	M.	.	„ 1933
----------	---	---	----	---	--------

Stromness	.	.	M.	.	„ 1928
-----------	---	---	----	---	--------

### SHETLANDS.

Lerwick	.	.	M.	.	„ 1930
---------	---	---	----	---	--------

Aith	.	.	M.	.	„ 1926
------	---	---	----	---	--------

### CAITHNESS-SHIRE.

Thurso	.	.	M.	.	„ 1929
--------	---	---	----	---	--------

Wick	.	.	M.	.	„ 1921
------	---	---	----	---	--------

### CROMARTYSHIRE.

Cromarty	.	.	M.	.	„ 1928
----------	---	---	----	---	--------

### BANFFSHIRE.

Buckie	.	.	M.	.	„ 1922
--------	---	---	----	---	--------

Whitehills	.	.	M. (S.R.)	.	„ 1932
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### ABERDEENSHIRE.

Fraserburgh	.	.	M. (S.R.)	.	„ 1915
-------------	---	---	-----------	---	--------

Peterhead	.	.	M.	.	„ 1921
-----------	---	---	----	---	--------

Newburgh	.	.	P. (S.R.)	.	„ 1902
----------	---	---	-----------	---	--------

Aberdeen	.	.	M.	.	„ 1926
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	.	.	P. (S.R.)	.	„ 1918
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# **Ships and the Sea**

## **Scotland—*contd.***

### **KINCARDINESHIRE.**

Gourdon . . .	P. (S.R.)	Built in 1915
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### **ANGUS.**

Montrose . . .	M. . .	„ 1926
	P. (S.R.)	„ 1900
Arbroath . . .	M. (S.R.)	„ 1932
Broughty Ferry . . .	M. . .	„ 1908

### **FIFESHIRE.**

St. Andrews . . .	P. (S.R.)	„ 1909
Anstruther . . .	M. . .	„ 1933

### **HADDINGTONSHIRE.**

Dunbar . . .	M. . .	„ 1931
Skateraw . . .	P. . .	„ 1906

### **BERWICKSHIRE.**

St. Abbs . . .	M. . .	„ 1910
Eyemouth . . .	P. (S.R.)	„ 1909

## **Northern Ireland.**

### **COUNTY ANTRIM.**

Portrush . . .	M. . .	„ 1924
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### **DOWN.**

Donaghadee . . .	M. . .	„ 1932
Cloughey . . .	M. (S.R.)	„ 1931
Newcastle . . .	P. . .	„ 1906



# Royal National Life-Boat Institution

## Irish Free State.

### LOUTH.

Clogher Head . . .	M. (S.R.)	Built in 1931
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### DUBLIN.

Howth . . .	M. . .	„ 1929
-------------	--------	--------

Poolbog . . .	P. . .	„ 1910
---------------	--------	--------

Dun Laoghaire (Kingstown) . . .	M. . .	„ 1919
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### WICKLOW.

Wicklow . . .	M. (S.R.)	„ 1910
---------------	-----------	--------

Arklow . . .	M. (S.R.)	„ 1914
--------------	-----------	--------

### WEXFORD.

Rosslare Harbour . . .	M. . .	„ 1927
------------------------	--------	--------

Kilmore . . .	P. (S.R.)	„ 1914
---------------	-----------	--------

### WATERFORD.

Dunmore East . . .	M. . .	„ 1925
--------------------	--------	--------

Holvick Head . . .	M. . .	„ 1919
--------------------	--------	--------

### CORK.

Youghal . . .	M. (S.R.)	„ 1931
---------------	-----------	--------

Ballycotton . . .	M. . .	„ 1930
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Courtmacsherry Harbour . . .	M. . .	„ 1929
---------------------------------	--------	--------

Baltimore . . .	M. . .	„ 1919
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# **Ships and the Sea**

## **Irish Free State—*contd.***

### **KERRY.**

Fenit (Tralee Bay)	.	M.	.	Built in	1932
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### **GALWAY.**

Galway Bay	.	.	M.	.	„ 1921
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### **DONEGAL.**

Arranmore	.	.	M.	.	„ 1910
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## CHAPTER XX

# Some Well Known Ship Canals

**AMSTERDAM CANAL** connects Amsterdam with the North Sea at Ymuiden. It was opened in 1876 and has a length of 16 miles. At present it has a depth of 32 feet and a width at bottom of 164 feet, very much more than when it was opened.

It is still further to be increased to a width of 330 feet and a depth of 50 feet and this will allow the largest vessels access to the port of Amsterdam.

**CALEDONIAN CANAL.** Extends from the Atlantic to the North Sea, across the north-west of Scotland, and has a length of 60 miles, nearly forty of which are natural waterways such as the famous Loch Ness. Its depth is 17 feet and its passage forms one of the most delightful trips to be had in summer time.

**CORINTH CANAL.** Connects the Piraeus (Athens) with the Gulf of Corinth and was opened in 1893. It is only 4 miles long but in places it cuts through cliffs 250 feet high and it has a depth of 27 feet and a width at bottom of over 70 feet.

**ELBE AND TRAVE CANAL.** Opened in 1900 and has a length of 41 miles, a depth of 10 feet and a width at bottom of 72 feet.

**GÖTA CANAL,** in Sweden, was opened in 1832, it has a length of 115 miles and a depth of 10 feet and a width of 47 feet. It cost only £770,000.

**KIEL CANAL,** sometimes called the Kaiser Wilhelm Canal, its original name. Connects the Baltic with the North Sea at Kiel, the great German naval station.

It has a length of over 60 miles a depth of 45 feet and a width at bottom of 150 feet, but as originally opened in 1893 its width was only 72 feet and its depth 30 feet.

## **Ships and the Sea**

Germany soon saw that, with the increasing size of warships, the canal would have to be enlarged and the work was taken in hand and completed just prior to the outbreak of war in 1914.

The total cost has been in the neighbourhood of £20,000,000.

The canal was of tremendous value to Germany during the war, as it saves over 200 miles in the voyage over the Kattegat passage. To-day well over 50,000 vessels use the canal during the year, and it was de-militarised under the terms of the Versailles Treaty, although whether it remains so to-day is open to doubt.

KRONSTAD-PETROGRAD CANAL was opened in 1896 and is of considerable strategic value. It is 16 miles long, has a width at bottom of 220 feet and a depth of 20 feet and cost about £2,000,000.

MALTA CANAL is the name given to the channel running between Malta and Sicily.

MANCHESTER SHIP CANAL at first met with tremendous opposition and its originators were considered lunatics but it was eventually opened in 1894, and thus opened up the City of Manchester, 40 miles inland, to the sea.

The actual canal begins at Eastham Lock on the Mersey, and from there to Stanlow oil dock the depth is 30 feet; from Stanlow to Manchester it is 28 feet deep and its average width at bottom is 120 feet. There are bridges over the canal and so ships with tall funnels have to leave the top parts on the quayside at the entrance and pick them up again outwards. Topmasts also have to be struck as the clearance is 70 feet only.

To-day ships of 12,000 tons regularly visit Manchester and so the £19,000,000 expended on the construction of the canal was more than justified.

NORTH HOLLAND CANAL. Connects Amsterdam with the Helder, a length of 50 miles. It is 31 feet wide at bottom, is 20 feet deep and was completed as far back as 1825.

## Some Well Known Ship Canals

PANAMA CANAL. Connects the Atlantic and Pacific Oceans across the Isthmus of Panama and saves the tremendous and dangerous passage round Cape Horn or through the Magellan Straits; it reduces the distance between New York and San Francisco by some 8,000 miles.

The canal has a length of 50 miles and varies in width from 300 feet to 1,000 feet and it was officially opened in 1914.

It is over 80 feet higher than the oceans on either side and immense locks, each 1,000 feet in length, by 110 feet wide and with a depth of 41 feet, are provided for lifting the ships and powerful electric locomotives assist by pulling.

At one part, called the Culebra Cut, which runs through great cliffs, over 100,000,000 cubic feet of earth was excavated and this cut has frequently caused trouble on account of landslides which block the passage.

It is said that this cut alone cost nearly £17,000,000 and that the total cost has been in the neighbourhood of £75,000,000.

Approximately 5,000 commercial vessels pass through the canal during the year and the tremendous strategic value to the United States Navy can be imagined; the fleet can concentrate on the Atlantic or Pacific coasts within a few hours and both entrances are heavily fortified and the entire length carefully guarded to prevent sabotage.

The idea of cutting a canal had long been the dream of many; perhaps Drake was the first to have the vision when he scaled a tree on the Isthmus and gazed upon the blue waters of the Pacific for the first time.

Originally projected as a commercial proposition in 1879 by Ferdinand de Lesseps, who constructed the Suez Canal, it was to have been a waterway on sea level but after ten years' work, financial failure caused the scheme to be dropped until 1894 when another company carried on for a further ten years and then the United States Government took over the scheme which included the sovereign

## Ships and the Sea

rights over a ten mile strip of territory belonging to the Republic of Panama and known as the Canal Zone.

The greatest difficulty other than financial was to combat the terribly unhealthy climate; workmen died in thousands until doctors and scientists overcame the trouble.

From Colon on the Atlantic coast (which curiously enough is 20 miles to the westward of Panama City on the Pacific Coast), by way of the Horn is 10,500 miles and by way of the canal, about 50.

For the first 7 miles from the Atlantic the canal is on sea level and then come the Gatun Locks which lift a vessel 85 feet up to the level of the Gatun Lake, the largest artificial lake in the world. Passing through the Gatun Lake at a speed up to 15 knots the ship approaches the Culebra (Spanish for snake) Cut and reduces to about 6 knots for the 8 miles passage and later the Pedro Miguel Lock drops her 30 feet and the Miraflores a further 55 feet to the level of the Pacific.

SUEZ CANAL is the outstanding example of the sea-level canal in the same way that the Panama represents the lock system.

Its total length is 87 miles and it runs from Port Said in the Mediterranean to Suez at the top of the Red Sea. Ismailia is the half-way house.

Its width at the bottom is 147 feet and its depth about 34 feet and the total cost to date amounts to about £30,000,000.

From time immemorial a canal of sorts has crossed the Isthmus of Suez following very closely the lines of the present one although history records that this waterway became silted up on more than one occasion.

Napoleon the Great was the first man within measurable time to consider its practical value and he actually had the land surveyed with the idea of putting the work in hand but nothing came of the idea and it was not until Ferdinand de Lesseps took the matter over that work was commenced in 1859.

## Some Well Known Ship Canals

Ten years later the official opening took place, although a ship had made the passage some four years previously.

The passage occupies about fifteen hours and about 6,000 vessels, of which over half are British, pass through during the year.

At night time vessels use powerful searchlights and it is a very impressive sight to see a liner make the night passage.

As for the Panama Canal, dues are based on a special tonnage measurement, which is different from that used for other purposes and ships in ballast pay 2·875 gold francs per ton and full ships pay 5·75 gold francs. In addition a charge of 10 francs for each adult passenger and 5 francs for each child passenger is made, and approximately 320,000 passengers pass through annually.

Much nonsense has been talked recently about the desirability of the British closing the Suez Canal against the passage of Italian ships; apart from the fact that this would be an act of war totally unjustified in the circumstances, we have no authority to do so. True, this waterway constitutes one of the principal arteries of the Empire and its security means everything to us, but we have no sovereign rights over the canal.

The original project for a canal was approved in England, France, Austria, Russia, Turkey and Germany but the British Government showed almost open hostility to the whole concern and not a single application for shares came from this country. Palmerston described the scheme as "one of the greatest frauds of modern times to construct a foul and stagnant ditch."

The majority of the shares were taken up in France, and practically the remainder by the Egyptian Khedive.

In 1875 Egyptian finances were in a parlous state and upon it reaching the ears of Disraeli that the Khedive wished to dispose of his shares, he, seeing the tremendous opportunity offering, purchased them on behalf of the British Government. Three British directors were elected to the Board.



## Ships and the Sea

In 1882 came the rebellion of Arabi Pasha against the Khedive's authority, and the French refused to help the British in quelling the rebellion and in defending the canal itself.

When the rebellion was crushed and the menace to the canal disposed of, entirely by British action, the shipowners of this country maintained that the dues were too heavy and that they seriously handicapped business and that whilst at this time four-fifths of the canal traffic was British and we held nearly one-half of the shares, only three British representatives were on the Board.

They proposed to petition the Government to construct a rival waterway.

After endless conferences the "London Programme" was introduced, whereby the shipowners' demands were, in the main, agreed to, and the British representation was increased to seven seats on the Board. From this date, 1883, the Franco-British relations have left nothing to be desired.

The Suez Canal Company is registered under Egyptian law as an Egyptian concern; its President is always a Frenchman and there are twenty French, one Dutch and ten British directors on the Board and of these latter, three represent the Government.

As the original concession to de Lesseps in 1869 was for a period of ninety-nine years, there remain only just over thirty years to run and at the end of this time the Canal will lapse to the Egyptian Government.

Much depends upon the attitude of the Egyptian Government in power in 1968.

No doubt very much depends upon temperament but to me the passage of the Suez Canal, whether by day or by night, is the most delightful part of a voyage to the East; there is certainly nothing much to see, but the colouring of the water, the closeness of the desert on either side and the glorious sunset effects leave an impression never forgotten. The cliffs at the Suez end, seen in the early morning, are bathed in a pink glow impossible to describe, and the effect of moonlight on the canal as seen from the crows' nest is one of ethereal beauty.

## Some Well Known Ship Canals

### Inland Waterways in Great Britain.

The canals of this country have often been badly neglected, although they are of priceless value both commercially and strategically.

During the Great War their possibilities were recognised and an organisation known as the Inland Water Transport took over the entire management, upkeep and development, but since then much of the good work done has been allowed to lapse.

There are over 4,000 miles of canals in England and Scotland and well over 12,000,000 tons of goods are carried annually.

There are at present encouraging signs that once more they are going to be put to good use and especially is this necessary in view of the increasing congestion of the roads.

The longest canal is that known as the **Grand Union Canal** which connects London with the Midlands and which has outlets into the Thames at Brentford and Limehouse and which has a total length of 280 miles.

The system embraces the following canals: the Birmingham and Warwick Junction Canal, the Frewash Canal, the Grand Junction Canal, which itself is 190 miles long, the Leicester and Loughborough Navigation Canal, the Regent's Canal, the Warwick and Birmingham Canal and the Warwick and Napton Canal.

Other large systems in this country are the **Leeds and Liverpool**, 145 miles long, and the **Shropshire Union**, 200 miles.

The **Hythe Military Canal**, which wanders over the Romney Marsh, was constructed during the Napoleonic wars.

The canal system is one which is capable of tremendous development and organisation and with it would come the demand for more factory and industrial sites, and the entire opening up wants to be tackled on a national basis.

## CHAPTER XXI

# World's Greatest Seaports

THE following are a few of the largest sea ports in the world measured by average annual volume of trade; the figures given are only approximate and are given for purposes of interest.

	<i>Total tonnage entered and cleared</i>	<i>Value of trade in £</i>
ANTWERP . . .	48,000,000	
NEW YORK . . .	41,000,000	755,000,000
HAMBURG . . .	38,000,000	
LONDON . . .	32,000,000	604,000,000
ROTTERDAM . . .	31,000,000	
SINGAPORE . . .	30,000,000	74,000,000
HONG KONG . . .	28,000,000	168,000,000
LIVERPOOL . . .	26,000,000	352,000,000
MARSEILLES . . .	22,000,000	
SOUTHAMPTON . . .	21,000,000	76,000,000
GENOA . . .	18,000,000	102,000,000
COLOMBO . . .	16,000,000	
SHANGHAI . . .	15,000,000	122,000,000
NEWCASTLE . . .	14,000,000	42,000,000

# GRAND UNION CANAL



# Ships and the Sea

			<i>Total tonnage entered and cleared</i>	<i>Value of trade in £</i>
CARDIFF	.	.	13,000,000	24,000,000
DURBAN	.	.	12,000,000	
MONTEVIDEO.	.	.	12,000,000	20,000,000
KOBE .	.	.	10,000,000	101,000,000
GLASGOW	.	.	9,000,000	70,000,000
HULL	.	.	9,000,000	89,000,000
RANGOON	.	.	9,000,000	51,000,000

## CHAPTER XXII

### Various Kinds of Docks

OVER and above the general term docks, which is applied to a place where ships congregate to load or unload at quays or wharves, there are two very interesting types which merit attention.

The first is the *Graving Dock* or dry dock into which a vessel goes when it is desired to clean or examine her underwater surface.

In the old days the word "grave" meant, as applied to ships, "to ground," so that at low water she could be cleaned or repaired below the waterline and the oldest dry dock in the world is that in which H.M.S. *Victory* now rests at Portsmouth and, which was constructed in 1495. Before this time, in fact from time immemorial hollows had been scraped out of banks of rivers to serve for the same purpose, but the one at Portsmouth is the earliest actually built.

For all practical purposes here, dry docks are merely hollows cut into the ground which can be emptied of or filled with water as desired. Naturally their construction is one requiring all the resources of engineering skill and they are very wonderful things, but their chief disadvantage is that they are naturally fixed and cannot be moved about to keep pace with the shifting centres of trade and they cannot be enlarged without a very large expenditure of money and immense labour, and perhaps the adjoining ground is not available for expansion.

When the ship is in the dock, the water is pumped out and the entrance closed by heavy caissons or gates.

## Ships and the Sea

The largest graving dock in the world is the King George V Dock at Southampton, designed with a view to accommodating the giant *Queen Mary* and opened by the late King in July, 1933. It is 1,200 feet long and 135 feet wide at the entrance and at high water there is a depth of 45 feet.

There are graving docks with a length of 1,000 feet or upwards at the following ports of the Empire:—

LIVERPOOL.

QUEBEC.

ST. JOHN (New Brunswick).

VICTORIA (British Columbia).

Also at:—

BALBOA (Panama).

BOSTON (United States).

BREMERHAVEN (Germany).

HAVRE (France).

NORFOLK (United States).

PHILADELPHIA (United States).

SAN FRANCISCO (United States).

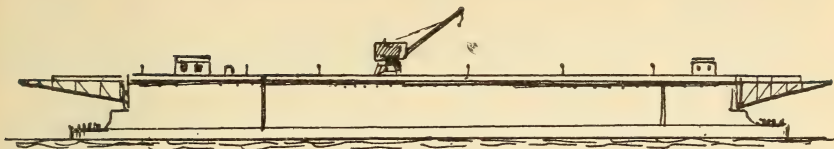
ST. NAZAIRE (France).

There is, in addition, one of 1,300 feet long being constructed at BAHIA BLANCA, Argentina.

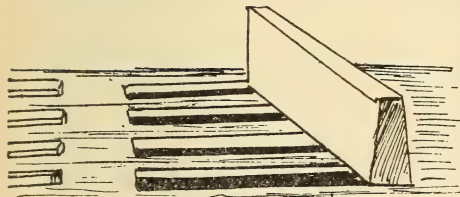
Towards the end of last century the disadvantages of the graving dock were recognised, and as ships grew larger, many docks were rendered obsolete as far as their original intention of handling large ships was concerned, and so the *Floating Dock* began to receive attention.



## VARIOUS TYPES OF FLOATING DOCKS



*General Type of Box Dock.*



*Depositing Dock with Gridirons.*



*Off-Shore Dock.*

## Ships and the Sea

Until the last quarter of the century floating docks had existed in the form of the hulls of old ships fitted with a double bottom, or of wooden pontoons which had very limited value, but about this time the Russians went in for immensely broad battleships, almost circular in hull design, and no dry docks in existence could accommodate them; this gave an impetus to floating dock design and a floating dock, known as a depositing dock, was patented by a British designer and this proved so useful that rapid developments were made.

Generally speaking a floating dock is shaped like a box with open ends and to receive a ship it is sunk to a depth corresponding with the draught of the ship and, the charge being warped in, the water is pumped out and the dock rises, carrying with it the ship.

The body of the dock is called the *pontoon*, which is divided up into hollow compartments into which water is admitted and from which it can be pumped as desired.

Above the pontoon are built the *walls* of the dock, upon the tops of which are usually placed large travelling cranes and the control houses. From the sides project telescopic *Shores*, which help to hold the ship in position while she is being centred over the keel blocks laid along the centre of the floor of the dock.

As the water is pumped out of the dock, bilge blocks are placed into position beneath the bottom of the ship and she rests comfortably, high and dry.

Another advantage of the floating dock is that it can hold vessels of a greater length than itself and it can be operated at any state of the tide.

There are two types of floating dock most commonly in use, the *Box Dock*, as described above, and the *Sectional Box Dock*, which is more often favoured now, especially for docks of great size.

The latter type possesses all the qualities of the original box dock, with the additional advantage that it is made and built up in sections, each of which is a box in itself,

## Various Kinds of Docks

and this enables one portion to be docked by the others in the case of repair and facilitates the towing from one place to another.

This type is called the *Bolted Sectional* and there is another called the *Sectional Pontoon*, in which only the bottoms or pontoons are sectional, the walls being continuous, and so the pontoons only, can be lifted on to another portion.

Sectional Docks can always be increased in size if required by simply bringing up another section and bolting it on.

In 1884 the *Off Shore* dock was patented and this is similar to the docks already described, except that it has one wall only and the ship may be floated in or out broadside on.

At many ports may be seen *Gridiron*, which are a series of parallel beams supported by piles driven into the river or sea bed.

In conjunction with these is used a *Depositing Dock*, which is similar to the off-shore type except that the whole floor is divided up into a series of parallel "Fingers" with spaces between. A ship is lifted on to this dock in the same way as before, by sinking the pontoon, and the fingers of the dock are then pushed in between the spaces of the gridiron, the dock is once more submerged and the vessel is left high and dry on the grid.

This system is largely used for small coasting vessels and it has the very definite advantage that as many ships can be deposited as there are grids to receive them.

The process of lifting a ship is very rapid compared with the time required for emptying an ordinary graving dock and vessels of 30,000 tons can readily be lifted in about two hours.

The largest floating docks in the British Empire are at:—

DEVONPORT with a lifting capacity of 32,000 tons.

MALTA           "           "           "           " 65,000   "   (The largest in the world.)

## Ships and the Sea

PORTSMOUTH with a lifting capacity of 32,000 tons.

SINGAPORE   "       "       "       "   50,000   "

SOUTHAMPTON       "       "       "       "   60,000   "

and there are large ones at:—

HAMBURG (Germany) with a lifting capacity of 46,000 tons.

     "       "       "       "       "       "   38,000   "

NICOLAIEFF (Russia)   "       "       "       "   30,000   "

ROTTERDAM (Netherlands)   "       "       "       "   46,000   "

## CHAPTER XXIII

# A Few Outstanding Dates Connected with Shipping

- 1078. Establishment of Cinque Ports.
- 1206. Press Gang first legalised for King's ships.
- 1485. Establishment of Royal Navy by Henry VII.
- 1550. Invention of sextant.
- 1597. Hammocks introduced into Royal Navy.
- 1599. Mercator's Chart drawn up.
- 1608. Marine telescope invented.
- 1661. Naval Discipline Act introduced.
- 1675. Greenwich Observatory established.
- 1703. Smoking first authorised in Royal Navy; permitted over tubs of water on  
forecastle only.
- 1707. First experiments with paddle-wheel steamboat.
- 1714. First steam-engine constructed.
- 1735. Chronometer invented.
- 1748. Uniform first introduced into Royal Navy, for Commissioned Officers.
- 1785. First ship propelled by steam through pipe at stern.
- 1780. Daily Divisions introduced into the Royal Navy by Kempenfelt.
- 1787. First register made of Imperial ships.
- 1812. First passenger steamer in Europe regularly employed. (*Comet*.)
- 1819. First steamer (paddle with auxiliaries) to cross Atlantic. (*Savannah*.)
- 1824. Foundation of Royal National Life-Boat Institution.

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- 1838. First actual steamer to cross Atlantic. (*Sirius*.)
- 1839. First screw steamer to cross Atlantic. (*Great Britain*.)
- 1843. First iron steamships built in Great Britain.
- 1848. Navigational Lights first standardised.
- 1851. First submarine telegraph cable laid.
- 1852. Continuous Service introduced into Royal Navy.
- 1857. First International Code of Signals introduced.  
First uniform for lower deck ratings in Royal Navy.
- 1860. First marine compound-engine introduced.  
First British iron-clad built. (*Warrior*.)
- 1861. First gale warning issued.
- 1862. First International Rule of the Road at Sea introduced.
- 1863. Twin-screws first used.
- 1864. White Ensign made the only ensign of Royal Navy.
- 1869. Opening of Suez Canal.
- 1870. First attempt to burn oil-fuel at sea.
- 1871. First steamer with saloon amidships. (*Oceanic*.)  
Lloyd's incorporated.
- 1878. United Kingdom Chamber of Shipping established.
- 1879. First electric light in Atlantic liner. (*City of Berlin*.)
- 1880. Triple-expansion engines introduced.
- 1883. First steamer service on Great Lakes.
- 1884. First twenty knot ships. (*Umbria* and *Etruria*.)  
First frozen meat brought from New Zealand. (*Elderslie*.)
- 1889. First auxiliary cruisers built. (*Majestic* and *Teutonic*.)
- 1893. Manchester Ship Canal opened.
- 1894. First turbine ship. (*Turbinia*.)

## A Few Outstanding Dates with Shipping

- 1900. Wireless adopted by British Admiralty.
- 1901. First permanent wireless in merchant ship. (*Lucania*.)
- 1902. First wireless message across the Atlantic.
- 1904. First Atlantic turbine ship. (*Victorian*.)  
Heavy-oil first tried for marine engines; experiments with electrical propulsion.
- 1908. Introduction of combined triple-expansion and low-pressure turbine.  
Gyro-stabiliser for ships invented.  
Port of London Authority constituted.
- 1910. Water-tube boilers first introduced.
- 1912. Loss of *Titanic*, world's largest ship, with over 1,500 lives.
- 1913. First diesel-electric drive tried.  
Pilotage Act introduced.
- 1914. Panama Canal opened.
- 1916. Battle of Jutland.
- 1918. Surrender of German Fleet to Royal Navy.  
Mercantile Marine given official title of British Merchant Navy.
- 1921. First turbo-electric ship. (*San Benito*.)
- 1923. *Trevesa* lost in Indian Ocean; crew reach Mauritius after twenty-three and twenty-six days in open boats.
- 1926. High pressure turbines introduced.
- 1927. First Atlantic crossing by ship burning pulverised fuel. (*Mercer*.)
- 1933. Direct Helm orders introduced.
- 1935. *Mauretania*, which had held Blue Riband of Atlantic for twenty-two years, broken up.  
First ship to exceed 1,000 feet in length. (*Normandie*.)
- 1936. First British ship to exceed 1,000 feet. (*Queen Mary*.)



## CHAPTER XXIV

# Speeds of Ships throughout the Ages

IT is not possible to present a complete record of speed in this little book, but a few figures may prove interesting.

No very accurate figures exist regarding the ships of early times, so that we must be content with a few examples and the speed of steamships is given for the Atlantic ships, as it is on the Western Ocean that the highest speeds have been reached.

The speeds given in all cases are the averages of the fastest passages recorded by them in the year mentioned and no attempt has been made to give the actual time taken in days, hours and minutes, partly because there is not sufficient space and partly because some of the voyages were from east to west, some from west to east and they were not all made between the same places.

16th Century.	GALLEYS.	(Rowed by slaves).	4-4.5 knots for first hour when crews were fresh; dropping a knot for the next hour and then falling to 2.5.
18th Century.	LINE OF BATTLESHIP	. .	About 5 knots.
19th Century.	CLIPPER SHIP	. . .	18 knots. (Reached by American clipper <i>Lightning</i> in 1854, a speed not exceeded by any vessel, sail or steam, for thirty years.)

## Speeds of Ships throughout the Ages

### STEAMSHIPS:

1838.	ROYAL WILLIAM	.	.	6·5 knots.
1840.	BRITANNIA	.	.	8·5 „
1840.	BRITANNIA	.	.	10·6 „
1847.	HIBERNIA	.	.	11·7 „
1850.	ASIA	.	.	12·1 „
1851.	PACIFIC	.	.	13·0 „
1862.	SCOTIA	.	.	14·1 „
1873.	BALTIC	.	.	15·1 „
1882.	ALASKA	.	.	16·1 „
1882.	ALASKA	.	.	17·2 „
1884.	OREGON	.	.	18·1 „
1888.	ETRURIA	.	.	19·7 „
1889.	CITY OF PARIS	.	.	20·0 „
1893.	CAMPANIA	.	.	21·1 „
1894.	LUCANIA	.	.	22·0 „
1902.	KRONPRINZ WILHELM.	.	.	23·1 „
1907.	LUSITANIA	.	.	25·1 „
1907.	MAURETANIA	.	.	26·25 „
1924.	MAURETANIA	.	.	27·22 „
1933.	BREMEN	.	.	28·55 „
1933.	REX	.	.	28·92 „
1935.	NORMANDIE	.	.	29·68 „

Warships have reached a greater speed than merchant vessels, although in the case of destroyers it must be borne in mind that they are so very much smaller comparatively, and the following give a few present-day high speeds.

## Ships and the Sea

HOOD (Battle Cruiser)	.	.	31 knots.
COUNTY Class Cruisers	.	.	32·25 „
DUQUESNE (French Cruiser).	.	.	34·5 „
MALIN (French Destroyer)	.	.	37 „
LE TERRIBLE (French Destroyer)	.	.	45·25 „

### Blue Riband of the Atlantic.

The North Atlantic has always been the scene of intense rivalry between ships and on it the highest speeds of merchant ships have been made. Since the advent of steam the rivalry has become International in order to secure the coveted honour called the "Blue Riband of the Atlantic," which was entirely of a mythical character until 1934 when Mr. H. K. Hales presented a silver trophy.

Actually the Italian liner *Rex* had given reality to the distinction some little time before by appearing in Genoa flying a long blue streamer.

Since 1838 the honour has been held by the United States, Great Britain, Germany, Italy and France, the most famous holder being the Cunarder *Mauretania*, which held it from 1907 until 1929, when she relinquished it to the brand-new Norddeutscher Lloyd liner *Bremen*.

The Italian liner *Rex* was the first holder of the actual trophy, holding it for a few months only, before relinquishing it to the French giant *Normandie*.

To decide upon the conditions for the awarding of the trophy, an International Committee, representing Great Britain, France, Italy and Germany was formed and it was agreed that, as the distance to be covered was not always the same, and to avoid excessive speed by the competitors in crowded or restricted waters, it should be given for the greatest speed between given points and not for the time taken on the whole trip. Consequently the following routes were agreed upon:—

## Speeds of Ships throughout the Ages

BISHOP ROCK LIGHT to NANTUCKET LIGHT for ships sailing from the Channel.

FASTNET LIGHT	„	„	„	„	„	„	„	„	Liverpool.
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CAPE TARIFA	„	„	„	„	„	„	„	„	Mediterranean.
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At the time of going to press the holder of the “Blue Riband” is the French liner *Normandie*, which secured it in 1935 by her run from Southampton, of 4 days, 11 hours, 33 minutes, at an average speed of 29·68 knots, a slight difference from the *Great Western* which secured it in 1838 by her run from Liverpool in 10 days, 10 hours, 15 minutes, at an average speed of about 6·5 knots.

## CHAPTER XXV

# The British Merchant Navy

IT is difficult in a small space to give anything like a satisfactory sketch of the history, record and traditions of the British Merchant Navy. The rise of commercial enterprise overseas and the fitting out of properly equipped ships for mercantile purposes, may be dated back to the Elizabethan period, when, towards the end of that era, there were signs that a regular fighting force would have to be kept in being as distinct from the trading fleets.

Up to that time and indeed in some measure for a very much longer period afterwards, no warships were constructed purely and simply for fighting the enemies of the country; trading ships were hastily commissioned and filled with soldiers and when the war was over the soldiers were paid off and the ships returned to commercial pursuits.

When ships were designed as fighting craft they were often hired out to merchants in peace-time.

Right down to the Napoleonic wars merchant ships carried guns to beat off the attacks of privateers and enemy frigates.

British seamen, however, became known throughout the world for skill and bravery and the merchant service was undoubtedly the cradle of the Royal Navy.

In 1864 the use of the Red Ensign was discontinued by the Royal Navy and

## **The British Merchant Navy**

became the national ensign and was officially adopted by the Merchant Navy in consequence, although it had almost always been worn previously.

With the rise of the Empire the merchant fleets became the very arteries of the Imperial system and although few people seemed to realise the fact, their very lives depended upon its supremacy.

The Great War proved the great testing time, and how well it did its job is best signified by remembering that His Majesty King George V, the Sailor King, ordered that in future the Service was to be known as the British Merchant Navy; later he appointed H.R.H. The Prince of Wales (our present King) as Master of the British Merchant Navy and Fishing Fleets.

To the ordinary hazards of war was added the horrors of an unrestricted submarine campaign; 3,400 British merchant vessels were lost and 16,000 non-combatant British seamen gave their lives to keep our communications open.

Not one man who survived the submarine campaign refused to sign on again.

In addition, large numbers of officers and men joined up in the fighting services.

The convoy system was introduced and although merchant seamen had little or no experience in keeping station or of steaming in fleet formations, the scheme was an immediate success.

The bravery and heroism of British merchant seamen during this period was beyond all praise.

The two branches of the sea services were drawn close together and a mutual admiration and respect was engendered which has never diminished; each side now understands the other's problems and difficulties as never before.

Knighthoods were conferred on representative masters of the service as a further recognition of the debt owed to it.

The trawlers and drifters spent their time fishing for mines and in laying and guarding anti-submarine net barrages, and the toll of ships and lives was high.

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Over two-thirds of the United States' expeditionary force was brought over by the ships of the British Merchant Navy.

After the war, fleets had to be rebuilt and then came the heavy fight against subsidised foreign shipping and the world crisis; 60,000 officers and seamen have been walking our streets looking for employment.

The tide has probably turned, but many ships have been sent to the shipbreakers and further men thrown on the streets.

All is not well with the British Merchant Navy to-day and the time may come when a Minister of Marine will have to be created to take over the whole problem.

The Service has traditions as deep rooted as those of the Royal Navy and its officers and men are as loyal and devoted to their country as ever in the past but unfortunately all shipowners have not realised this.

By far the majority of owners are beyond reproach, but others care little for the comfort, conditions of service and future of the men under their flag; a loyal and splendid body is in danger of becoming disgruntled and their loyalty is being tried very high.

The Royal Family never ceases to show its interest and everything has been done by it to forward the interests of the personnel and to raise the status of the Service. The present King became, as Prince of Wales, Master of the newly formed Livery Company of Master Mariners and at the Jubilee Review in July, 1935, merchant ships were present at the request of the Admiralty and Captains of liners and Skippers of fishing craft were presented to His late Majesty by the Prince of Wales, on the bridge of the Royal Yacht.

No standard conditions exist in such matters as hours of service or annual leave or even of superannuation.

The seamen have behind them the National Union of Seamen, which, be it said



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to its credit, has not often usurped its authority and wandered into the political field, but the officers do not wish for any similar organisation, although recently one has been formed.

Requests have been submitted to owners unceasingly year after year, deputations have been sent to Parliament and Parliamentary committees have been formed; inquiries have been promised and efforts have been made to rouse the public conscience to a realisation of its responsibilities, but so far in vain.

Some ships are run with the bare minimum of crew as required by the Board of Trade and watch-keeping officers are driven far beyond the endurance that should be asked of any man.

Leave is given at such rare intervals that it ceases to enter into the consideration of many of these officers; their posts are too precarious for them to complain and they are not a company given to airing their grievances.

The Merchant Navy forms as vital a part of Imperial Defence as any of the fighting services and it must be organised and handled with full consideration of this view; it is a national service and must be placed upon a national basis.

At present many of the officers are too much at the mercy of the whims of individual directors and shore-keeping officials.

Shipowners have had a very hard time in recent years, and their sea-going staffs are the first to appreciate it and to be willing to make their full share of sacrifice when necessary for the common good. The sacrifice has been too one-sided.

The very high standard set by a great many companies, both passenger and cargo, only throws into high light the unhappy conditions in others.

With regard to the service conditions of seamen. A standard is laid down by law but that law was framed many years ago before modern ideas of hygiene had advanced to the position prevailing to-day; they can be very strictly adhered to and yet

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appalling discomfort suffered. A very large number of humane owners voluntarily provide much more than this legal requirement and reap their reward by contented crews and better all-round efficiency.

The British Empire has still a supreme Merchant Navy and yet it is ranked seventh in this matter of humane conditions for its seamen. Slum clearance ashore is a long overdue necessity; it is not less so afloat.

With regard to living quarters, sleeping space, light, ventilation, sanitation and general living conditions, far too many of our ships are a disgrace and even in passenger liners the stewards' quarters are often rather more than a scandal.

Perhaps some day, if we succeed in setting up a co-ordinating body, continuous service may be made possible, instead of the time, labour, friction and waste, of crews signing on and signing off each voyage.

Economic conditions must be faced and shipowners are no more philanthropic than any other body of business men, but all that the officers and men ask for is justice and it is the concern of every one of us to see that they obtain it before irreparable harm is done to the most vital industry of the Empire which depends for its very existence upon those men.

They were lauded during the war; they are forgotten in the peace.

Fortunately an important step was taken a short time ago by a considerable number of shipowners who drew up, and agreed to put into force, a scheme which provides for the standard conditions of entry, training and conditions of service of officers, and this is perhaps the beginning of a much wider movement but there is not doubt that, as in all industries, there are a few firms who will do nothing unless they are compelled by some higher authority.

At present, officers are either apprenticed direct to a shipowner for a term of four years before they may sit for their examination for a Board of Trade Certificate as Second Mate, or else they serve as a Cadet in H.M.S. *Worcester*, off Greenhithe

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in the Thames, in H.M.S. *Conway*, off Rock Ferry in the Mersey, or at the Nautical College at Pangbourne.

The progress of a youth apprenticed direct, depends very largely upon the company, as some give a very thorough training and others give next to none, leaving it to the individual to pick up what he can although his parents may have paid a considerable premium for his Articles.

Cadets in the training establishments have a very much better time and two years in either of these, counts as one year at sea; The Admiralty grant special privileges, such as the wearing of Royal Naval Reserve uniform and the offering of appointments in the Senior Service.

For seamen there are the following principal institutions:—

Gravesend Sea School, at Gravesend, Kent, which also maintains the T.S. *Triton* and which is for boys between sixteen and eighteen years of age, of good character only.

T.S. *Arethusa*, off Upnor in the Medway, which is maintained by the Shaftesbury Homes.

T.S. *Cornwall*, off Denton in the Thames, which is a reformatory ship.

T.S. *Indefatigable*, off Rock Ferry in the Mersey, which is for boys between thirteen and fourteen and a half years of age, of good character only.

T.S. *Mercury*, in the Hamble River.

T.S. *Warspite*, off Grays in the Thames, which is maintained by the Marine Society and which is for boys of good character only.

The latter establishment alone has sent over 70,000 lads into the Royal and Merchant Navies.

There are about 100,000 seamen employed in merchant vessels wearing the British flag, and of these about 8,000 are foreigners and over 43,000 are Lascars.

## CHAPTER XXVI

# Merchant Navy Officers and their Duties

AN officer in the Merchant Navy has to maintain discipline and good order by his example, personal behaviour and character; he has no Naval Discipline Act to back him up if necessary, and it must be remembered that the crew, although for the most part splendid fellows, have not had the training and discipline of the ratings in the Royal Navy.

The men have a Trades Union behind them and this calls for even greater tact and character on the part of the officer who has dealings with them.

That the standard of discipline and pride in the service should be of such a high standard is surely sufficient testimony to the greatness of the British Merchant Navy officer.

The duties and conditions of service vary somewhat according to the company and naturally according to the size of the ship, and it is to be feared that in many of the smaller cargo vessels the barest minimum of officers is carried, but in all well regulated ships the standard is very much the same, or sufficiently so to be able to give some idea of their responsibilities.

Some companies' ships carry several additional navigating officers, such as Junior Second and Junior Third and in others, every navigating officer must hold an extra Master's certificate.

The MASTER, CAPTAIN or COMMANDER is the supreme authority, naval and civil. He is responsible for the safe navigation of the ship, for the proper efficiency of his

## Merchant Navy Officers and Their Duties

junior officers and of his entire crew, and for the comfort and happiness of his passengers.

Master Mariner is still the correct term and dates back from the old days before fighting ships and merchant ships developed along separate lines, when the Master was the sailor responsible for the safe navigation of the ship and the Captain was in charge of the troops shipped for fighting purposes.

A man who, although holding a master's ticket, has never held command of a ship, should not be addressed as, nor should he use the title of, Captain.

A Commodore is the senior Captain in a company's fleet but the title is by no means general.

In times of danger the Captain is invariably on the bridge and he may keep it for days on end, merely dozing and snatching a few hours of sleep at intervals. It is the proud and true tradition that a captain of the British Merchant Navy is the last to leave his ship in the event of disaster; many have stayed on the bridge too long and have gone down with their charge.

Many of the largest liners carry a **STAFF CAPTAIN** whose duties are similar to those of a Naval Commander in ships which carry a captain in command. He is the senior executive officer and is the Master's right-hand man, sometimes devoting his attention to navigation but never relieving the Master of the supreme responsibility. The Master is referred to as the "Skipper" or the "Old Man" by his subordinates.

**THE CHIEF OFFICER** acts as the chief executive officer in a ship not carrying a Staff Captain or as the latter's assistant if there is one.

He is responsible for the smooth working of the ship and rarely stands watches.

He is responsible for the whole of the upper deck personnel and is usually entirely in charge of, and responsible for, the cargo.

**FIRST OFFICER.** In large ships comes next below the Chief Officer and below him

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the SECOND, THIRD and FOURTH OFFICERS with sometimes JUNIOR SECONDS, THIRDS and FOURTHS as well.

These are the watch-keepers or the actual navigators of the ship.

In smaller ships there is no First Officer, the Second coming next to the Chief.

There is usually a senior and junior officer together on watch, the senior taking the title of *Officer of the Watch* or O.O.W. and he alone is responsible for the ship's safety.

The Officer of the Watch has first and foremost to supervise the navigation; he has to receive periodical reports from the ship's police, master-at-arms, the carpenter and stewards. Bridge and navigational instruments are usually tested in every watch, as are water-tight doors, fire alarms and safety valves.

At night the lamp trimmers have to report all navigational lights as correctly burning at each half hour.

Any changes of course or other unexpected happenings have to be reported to the Captain.

All these officers were formerly known as Mates.

The chief Petty Officer on board is the BOATSWAIN, who comes between the officers and the men, hence his nickname of "Buffer"; his is a very old title dating back to Norse and Viking times and he and his mates take charge of all the seamen.

Upon the Boatswain rests a great responsibility and it very much depends upon him whether the ship is a happy one or otherwise.

The MASTER-AT-ARMS is the head of the ship's police and takes charge of all the gangways, and usually of the third-class decks as well.

The highest rank of seamen is the ABLE BODIED SEAMAN (A.B.), usually called Able Seaman. From them are chosen the QUARTERMASTERS who take tricks at the wheel; they derive their name from the old days when the wheel of a ship was on the quarterdeck.



## Merchant Navy Officers and Their Duties

Below them come the ORDINARY SEAMEN (O.S.) and then the Boys.

This more or less completes the Upper Deck department.

The CHIEF ENGINEER or "Chief," as he is usually called, has entire charge of the engine-room department, and is responsible only to the master of the ship.

Below him are the SECOND, THIRD and FOURTH ENGINEERS who keep engine-room watches.

There is never a First Engineer, although in large ships there is frequently an ASSISTANT CHIEF ENGINEER.

The SURGEON and his staff have entire charge of all medical duties; the Surgeon makes no charge for his services, although most companies do not forbid the acceptance of any small personal gift.

The PURSER has entire charge of victualling and clerical work of the ship and large transatlantic liners carry a large staff of assistant pursers and writers.

He is the host of the ship and has to see that perhaps 3,000 passengers and 1,000 crew are cared for to everyone's satisfaction.

He has to satisfy Board of Trade, Customs, port health authorities, emigration and immigration officials, port, harbour and dock corporations.

He has to keep records of all the crew and prepare their wages so that at the end of the voyage, all accounts are up to date for the men to be paid off.

He has to keep statistics of, and account for, every tin of baked beans or for every orange consumed.

Perhaps some director wishes weird and wonderful statistics of his own kept, such as whether the passengers on A Deck consume more plates of soup than those on B Deck, the purser's department has to keep them.

All passengers' laundry accounts have to be kept.

The Purser's office is the bureau where all complaints are ventilated and believe me, there are many passengers who seem to have nothing else to do but to find



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fault with everything and everybody and the more money the passenger has, usually the more is he or she disgruntled and objectionable.

Oil has to be poured on troubled waters and it is the Purser's duty to do this.

He has to be a statesman and diplomat and has to be ready to converse with any passenger on any subject; he has to take charge of their valuables, if desired, and to find them if foolishly left lying about.

He has to take charge of all the cash on board and to issue all stamps, library tickets and so on; he has to account for all sales of tobacco and liquor.

He has to answer questions about places of interest at the ports of call and to arrange for sightseeing parties; he has to provide all information about hotels and their rates or about railway travelling facilities.

He has to put up with abuse and rudeness.

He has charge of the orchestras, the printers and the baggage masters.

He is responsible for the printing and posting of all notices throughout the ship.

He is responsible for all the deck games and sports and for the arranging of ship's concerts.

Under him is the entire steward's department, in charge of the CHIEF STEWARD, who is often mistaken for the Commander of the ship as he is usually resplendently arrayed and makes it a point to be in evidence at the gangways.

A ship may be full to capacity and a passenger may complain about his cabin; the Purser must find him accommodation elsewhere. A passenger may have an aversion to his next door neighbour; the Purser must keep the peace.

This is just the routine work and conveys no idea whatever of the hundred and one odd things that crop up to make the Purser's life interesting and sometimes a burden.

When a ship is delayed from docking at her proper time the work thrown upon the Purser and his staff is tremendous, because all the careful calculations regarding

## **Merchant Navy Officers and Their Duties**

wages of the crew are thrown out. Perhaps a thousand entries in wages sheets have to be altered in time for the paying off in a few hours' time.

Some people ashore imagine that any fool goes to sea as a Purser if he is unfitted for anything else. If they ever travel and take the trouble to think that ship's officers are working to make their trip pleasant, they may be pardoned for thinking that a Purser is a fool to stick to his job, but any reflection upon his mental capacity in other directions will quickly be dissipated.

## CHAPTER XXVII

# British Merchant Navy Uniforms

IN 1918, as an appreciation of the services of the Merchant Navy during the Great War, an Order in Council prescribed for an Official and Standard uniform dress for all officers and ratings.

This order has never been enforced, although a considerable number of companies adopted it, because a large number of the greatest lines had already had their own uniform for many years and officers were averse to severing the traditional associations.

Both in the standard uniform and the individual companies' uniform the various branches are distinguished by coloured cloth of identical colouring between the gold stripes and this colouring follows along the lines of the Royal Navy, namely: Purple for Engineers, Red for Surgeons and White for Pursers.

Some companies' officers wear their rank on their sleeves and others on the shoulder; some have chevrons and other stripes and the cap badge usually takes the form of the whole or part of the company's House flag surrounded by laurel or oak leaves.

In some of the largest lines frock coat is worn for ceremonial occasions and on Sundays; mess kit is worn for dinner and white uniforms in warm climates.

The seamen's dress is almost identical with that worn by seamen of the fighting service.

# STANDARD MERCHANT NAVY UNIFORMS

*CAP*



*BADGE*



*Captain*



*Chief Officer*



*1st Officer*



*2nd Officer*



*Junior Officer*



*Chief Engineer  
(Mauve between  
Stripes).*



*Senior Surgeon  
(Red between  
stripes).*



*Purser  
(2 thin gold  
on white).*



*Wireless  
Officer.*



*Chief  
Steward.*

## CHAPTER XXVIII

# His Majesty's Customs and Excise and Coastguard

THE Customs officer in this country is usually so unobtrusively dressed that he is often overlooked. His opposite number abroad strikes terror by his very appearance, as he is usually arrayed in a semi-military uniform and is hung about with swords and revolvers.

The headquarters of this highly important and hard-working department are at His Majesty's Customs House in Lower Thames Street, London.

Commissioners of Customs were first appointed in 1671 and were housed by King Charles II in London. The present "Long Room," 190 feet over all, replaces that built by him and rebuilt after destruction by fire in 1718 and again in 1814.

The Excise Department was amalgamated with the Customs Department in 1909.

Customs officers are to be seen wherever it might be possible to land a dutiable cargo, and in former days they were greatly assisted by the Coastguard. Not only is every ship searched for contraband but a complete record is also kept of every vessel entering or leaving port.

A strong force of plain-clothes intelligence officers is also maintained, and these men have a wide knowledge of drug traffickers and other undesirable characters.

Customs officials co-operate with the Emigration Authorities and all Fishing licences come within their jurisdiction.

## His Majesty's Customs and Excise

### H.M. Coastguard.

Before the war the Coastguard formed a magnificent reserve for the Royal Navy in the event of emergency and it was a splendid body entirely controlled by the Admiralty and conducted entirely on Naval lines.

In peace time their duties consisted of preventing smuggling, assisting at wrecks, looking after the rocket apparatus and generally keeping an eye on the coastline.

Stations were at frequent intervals and all hoisted the White Ensign.

After the war, with the demand for economy at the expense of the defence services, the Coastguard, as such, was practically abolished and the Navy lost a very valuable reserve.

The present force called coastguards is maintained by the Board of Trade; the stations are very few and far between and it exists more in name than in fact.

Apart from the folly of depriving the service of a fine body of reliable men it is questionable whether the move was a wise one from the point of view of economy; smuggling has been on the increase and will probably continue to be so, with long stretches of the coast virtually unprotected; fast motor boats can quite easily run a cargo ashore and with international dope syndicates taking a hand the need is rather for an increased organisation of coast watchers even over that of 1914.

## CHAPTER XXIX

# Number of Ships Built in Great Britain and other Countries during this century

<i>Year.</i>	<i>Great Britain.</i>	<i>Other Countries.</i>	<i>Total.</i>
1901	639	899	1,538
1902	694	956	1,650
1903	697	953	1,650
1904	712	931	1,643
1905	795	781	1,576
1906	886	950	1,836
1907	841	947	1,788
1908	523	882	1,405
1909	526	537	1,063
1910	500	777	1,277
1911	772	829	1,599
1912	712	1,007	1,719
1913	688	1,062	1,750
1914	656	662	1,319
1915	327	416	743
1916	306	658	964



## Number of Ships Built this Century

<i>Year.</i>	<i>Great Britain.</i>	<i>Other Countries.</i>	<i>Total.</i>
1917	286	826	1,112
1918	301	1,565	1,866
1919	612	1,871	2,483
1920	618	1,141	1,759
1921	426	953	1,379
1922	235	617	852
1923	222	479	701
1924	494	430	924
1925	342	513	855
1926	197	403	600
1927	371	431	802
1928	420	449	869
1929	489	523	1,012
1930	481	603	1,084
1931	148	448	596
1932	100	207	307
1933	108	222	330
1934	173	363	536

## CHAPTER XXX

## Merchant Fleets of the Principal Maritime Powers

FIGURES are given for vessels of over 100 tons and are approximate, for purposes of interest only, given only in round figures as the total varies almost daily.

	<i>Steam</i>	<i>Tonnage</i>	<i>Motor and Electric</i>	<i>Tonnage</i>	<i>Total Ships</i>	<i>Total Tonnage</i>
BRITISH EMPIRE (Including Great Lakes)	8,000	17,000,000	1,000	3,200,000	9,000	20,200,000
ARGENTINA . . .	230	250,000	60	62,000	290	312,000
BELGIUM . . .	150	340,000	40	66,000	190	406,000
BRAZIL . . .	260	430,000	30	50,000	290	480,000
CHILI . . .	80	140,000	—	—	80	140,000
DENMARK . . .	480	640,000	220	400,000	700	1,040,000
FINLAND . . .	250	400,000	50	20,000	300	420,000
FRANCE . . .	1,200	2,700,000	170	240,000	1,390	2,940,000
GERMANY . . .	1,450	3,000,000	600	700,000	2,050	3,700,000
GREECE . . .	570	1,700,000	12	5,000	582	1,705,000
ITALY . . .	800	2,200,000	360	640,000	1,160	2,840,000
JAPAN . . .	1,400	3,250,000	700	800,000	2,100	4,050,000
NETHERLANDS . .	760	1,700,000	600	840,000	1,360	2,540,000
NORWAY . . .	1,400	2,000,000	440	1,900,000	1,840	3,900,000
POLAND . . .	35	62,000	9	32,000	44	92,000
PORTUGAL . . .	160	230,000	19	7,000	179	237,000
SPAIN . . .	700	920,000	150	240,000	850	1,160,000
SWEDEN . . .	900	970,000	300	560,000	1,200	1,530,000
UNITED STATES .	2,800	11,400,000	400	750,000	3,200	12,150,000
YUGOSLAVIA . .	150	340,000	13	2,000	163	342,000

# CHAPTER XXXI

## Tonnage of Various Merchant Fleets in 1914 and 1934

BRITISH EMPIRE	.	.	6.7	per cent decrease
UNITED STATES	.	.	382.2	per cent increase
JAPAN	.	.	138.5	„ „ „
FRANCE	.	.	69.6	„ „ „
ITALY	.	.	101.0	„ „ „

Nearly £30,000,000 annually is paid in subsidies to merchant shipping by Foreign Governments.

# CHAPTER XXXII

## Merchant Ships of the World above 30,000 Tons

<i>Name</i>	<i>Year</i>	<i>Company</i>	<i>Nation- ality</i>	<i>Gross Tonnage</i>	<i>Length</i>	<i>Speed</i>
NORMANDIE	1935	Comp. Gen. Trans.	French	82,799	962	30
QUEEN MARY	1936	Cunard White Star	British	80,800	1,018	
					(over all)	
BERENGARIA	1912	Cunard White Star	British	52,101	884	23 $\frac{1}{2}$
BREMEN	1929	Norddeutscher Lloyd	German	51,656	899	27 $\frac{1}{2}$
REX	1932	Italia	Italian	51,062	817	27 $\frac{1}{2}$
EUROPA	1928	Norddeutscher Lloyd	German	49,746	890	27 $\frac{1}{2}$
CONTE DI SAVOIA	1932	Italia	Italian	48,502	786	27 $\frac{1}{2}$
AQUITANIA	1914	Cunard White Star	British	45,647	869	23 $\frac{1}{2}$
ILE DE FRANCE	1926	Comp. Gen. Trans.	French	43,450	758	23
EMPRESS OF BRITAIN	1931	Canadian Pacific	British	42,348	733	24
PARIS	1921	Comp. Gen. Trans.	French	34,569	735	22
ROMA	1926	Italia	Italian	32,583	706	21
COLUMBUS	1922	Norddeutscher Lloyd	German	32,565	750	22
AUGUSTUS (Motor)	1927	Italia	Italian	30,418	711	19

# CHAPTER XXXIII

## Largest Merchant Ships Owned by Principal Maritime Countries

BRITISH EMPIRE	.	.	Queen Mary	.	.	.	80,800 tons gross
ARGENTINA	.	.	Juvenal (Tanker)	.	.	.	13,896 „ „
BELGIUM	.	.	Leopoldville	.	.	.	11,256 „ „
BRAZIL	.	.	Bagé	.	.	.	8,235 „ „
CHILI	.	.	Antofagasta	.	.	.	4,798 „ „
DENMARK	.	.	Frederik VIII	.	.	.	11,850 „ „
FINLAND	.	.	Josefina Thordén (Tanker)	.	.	.	6,549 „ „
FRANCE	.	.	Normandie	.	.	.	82,799 „ „
GERMANY	.	.	Bremen	.	.	.	51,656 „ „
GREECE	.	.	Byron	.	.	.	9,272 „ „
ITALY	.	.	Rex	.	.	.	51,062 „ „
JAPAN	.	.	Chichibu Maru (Motor)	.	.	.	17,498 „ „
NETHERLANDS	.	.	Statendam	.	.	.	28,291 „ „
NORWAY	.	.	Kosmos (Oil refinery)	.	.	.	17,801 „ „
POLAND	.	.	Pilsudski (Motor)	.	.	.	14,294 „ „
PORTUGAL	.	.	Nyassa	.	.	.	8,980 „ „
SPAIN	.	.	Cabo Santo Tomé	.	.	.	12,589 „ „

# Ships and the Sea

SWEDEN . . .	Kungsholm . . .	20,067 tons gross		
UNITED STATES . . .	Leviathan (Not in commis-			
	sion) . . .	58,943	„	„
	Columbia . . .	24,578	„	„
YUGOSLAVIA . . .	Kraljica Marija . . .	10,196	„	„

# CHAPTER XXXIV

## Fastest Vessels owned by various Countries

BRITISH EMPIRE . . .	Queen Mary . . .	(approx.) 32 knots
BELGIUM . . .	Prince Baudouin . . .	25 „
DENMARK . . .	Frederik VIII. . .	18 „
FRANCE . . .	Normandie . . .	30 „
GERMANY . . .	Bremen . . .	27 „
ITALY . . .	Rex . . .	27½ „
JAPAN . . .	Chichibu Maru . . .	21 „
NETHERLANDS . . .	Prinses Juliana . . .	22½ „
NORWAY . . .	Venus . . .	19½ „
SWEDEN . . .	Kungsholm . . .	18 „
UNITED STATES . . .	Lurline . . .	22 „
YUGOSLAVIA . . .	Kralj Aleksandar I. . .	18 „



# CHAPTER XXXV

## Oil Tankers owned by Principal Maritime Powers

BRITISH EMPIRE . . . . .	450
BELGIUM . . . . .	9
DENMARK . . . . .	12
FRANCE . . . . .	40
GERMANY . . . . .	30
ITALY . . . . .	70
JAPAN . . . . .	25
NETHERLANDS . . . . .	80
NORWAY . . . . .	225
SPAIN . . . . .	15
SWEDEN . . . . .	15
UNITED STATES . . . . .	400

## CHAPTER XXXVI

# World Records

(Tonnage in round figures)

FASTEST SHIP IN THE WORLD	.	.	.	Normandie (France), 30/32 knots
FASTEST MOTOR VESSEL	.	.	.	Prince Baudouin (Belgium), 25 „
FASTEST STEAM SHIP	.	.	.	Queen Mary (Great Britain), 32 „
				[approx.]
FASTEST TURBO-ELECTRIC VESSEL	.	.	.	Normandie (France), 30/32 knots
FASTEST SHIP ACROSS THE MEDITERRANEAN				Ville d'Alger (France), 21/23 „
FASTEST SHIP ACROSS THE PACIFIC				Empress of Japan (Great Britain), 24 „
LARGEST SHIP IN THE WORLD	.	.	.	Normandie (France), 82,800 tons gross
LARGEST MOTOR VESSEL	.	.	.	Augustus (Italy), 30,400 „ „
LARGEST STEAM SHIP	.	.	.	Queen Mary (Great Britain), 80,800 „ „
LARGEST TURBO-ELECTRIC VESSEL	.	.	.	Normandie (France), 82,800 „ „
LARGEST SHIPS TO AUSTRALIA				
				Orion and Strathmore (Great Britain), 23,400 „ „
LARGEST SHIP TO CANADA				Empress of Britain „ „ 42,300 „ „
LARGEST SHIP ACROSS THE PACIFIC				
				Empress of Japan „ „ 26,000 „ „
LARGEST SHIP TO PASS THROUGH PANAMA CANAL				
				Empress of Britain „ „ 42,500 „ „

## Ships and the Sea

LARGEST SHIPS TO SOUTH AFRICA				tons gross
	Athlone Castle and Stirling Castle (Great Britain),	25,500	„	„
LARGEST SHIP TO SOUTH AMERICA	Cap Arcona (Germany),	27,600	„	„
LARGEST SHIP TO PASS THROUGH SUEZ CANAL				
	Empress of Britain (Great Britain),	42,500	„	„
LARGEST SHIP TO WEST COAST OF SOUTH AMERICA				
	Reina del Pacifico	„	„	17,700 „ „
LARGEST CABLE SHIP	Dominia	„	„	9,300 „ „
LARGEST CROSS-CHANNEL SHIPS				
	Amsterdam, Prague and Vienna	„	„	4,200 „ „
LARGEST FUNNEL-LESS SHIP	India (Denmark),	9,500	„	„
LARGEST ORE CARRIERS				
	Amerikaland and Svealand (Sweden),	22,800 tons deadweight		
LARGEST TANKER	C. O. Stillman (Great Britain),	16,400 tons gross		
VESSEL WITH LARGEST REFRIGERATED CAPACITY				
	Avelona Star (Great Britain),	647,000 cubic feet in 80 chambers		

## Records held by British Ships

### BRITISH RECORDS

#### LARGEST BRITISH SHIP

Queen Mary (Cunard White Star Line), 80,800 tons, 1,018 feet long.

#### LARGEST BRITISH MOTOR-SHIPS

Britannic, Georgic (Cunard White Star), 27,000 and 28,000 tons

#### LARGEST BRITISH TURBO-ELECTRIC VESSEL

Queen of Bermuda (Furness) 22,600 gross tonnage

## Records

LARGEST BRITISH SHIP TO WEST COAST S. AMERICA

Reina del Pacifico (P.S.N.C.), 17,700 tons

FASTEST BRITISH LINER (in commission) . . . Queen Mary, 32 knots  
[approx.]

## WORLD RECORDS (Held by British Ships.)

(Excluding records that may have been set up by vessels not at the time engaged  
in their regular service.)

FASTEST CROSS-CHANNEL SHIPS IN WORLD

Cambria, Hibernia and Scotia (L.M.S.), 25 knots

FASTEST SHIP ON PACIFIC . . . Empress of Japan (Can. Pac.), 23 knots

FIRST MOTOR-SHIP ON DIRECT ROUTE TO N. ZEALAND . . Rangitiki (N.Z.S.C.)

FIRST OIL-FIRED SHIP ON DIRECT ROUTE TO N. ZEALAND . . Remuera (N.Z.S.C.)

LARGEST CROSS-CHANNEL SHIPS IN WORLD:

(*Tonnage*) Amsterdam, Prague and Vienna (L.N.E.R.), 4,200 tons.

(*Length*) Cambria, Hibernia and Scotia (L.M.S.), 395 feet.

LARGEST SHIPS FROM LONDON Britannic, Georgic (Cunard White Star), 28,000 tons

LARGEST MOTOR-SHIP TO WEST COAST S. AMERICA

Reina del Pacifico (P.S.N.C.), 17,700 ,,

LARGEST SHIP BETWEEN ANY TWO PORTS OF EMPIRE

Empress of Britain (Can. Pac.), 42,500 ,,

LARGEST SHIP EVER TO COME TO LONDON

Georgic (Cunard White Star), 28,000 ,,

LARGEST STEAM SHIP IN WORLD

Queen Mary (Cunard White Star), 80,800 tons, 1,018 feet long

## Ships and the Sea

LARGEST SHIP ON PACIFIC . . .	Empress of Japan (Can. Pac.), 26,600 tons
LARGEST SHIP TO AUSTRALIA . . .	Strathmore (P. & O.), 23,400 ,,
LARGEST SHIP TO CANADA . . .	Empress of Britain (Can. Pac.), 42,500 ,,
LARGEST SHIP TO COME TO MANCHESTER .	Northumberland (Federal), 11,600 ,,
LARGEST SHIP TO GO ROUND WORLD .	Empress of Britain (Can. Pac.), 42,500 ,,
LARGEST SHIP TO PASS THROUGH PANAMA CANAL . . .	Empress of Britain
LARGEST SHIP TO PASS THROUGH SUEZ CANAL . . .	Empress of Britain
LARGEST SHIP TO SOUTH AFRICA . . .	Stirling Castle (Union Castle), 25,500 tons
LARGEST TANKER IN WORLD . . .	C. O. Stillman (Imperial Oil), 16,400 ,,
SHIP WITH LARGEST REFRIGERATING CAPACITY IN WORLD	
Avelona Star (Blue Star), 647,900 cubic feet in 77 chambers	

## CHAPTER XXXVII

### Some Hints for Recognition of Liners

IT adds very greatly to the enjoyment of seeing ships if one is able to identify the line or company to which they belong, and even more so if the individual ship can be recognised.

Since the increase of cruising it has become a little more difficult to spot vessels immediately, because instead of being on their regular lines or routes they may crop up all over the place. A Canadian Pacific *Empress* may be encountered in the Mediterranean or an Orient off the coast of Norway.

To begin with, the most important thing is the colouring, and then the build probably helps to clarify matters a step further.

Certain companies have hull colouring or funnel markings which are so distinctive that there can be no possible doubt of the ownership when their ships are seen. For instance, the Union Castle Line hulls are painted a very definite lavender-grey, which is almost heliotrope, and this is unique; the Blue Star funnels are entirely original.

The House flag will help in port but not otherwise, as it is not flown at sea.

Another thing that complicates matters is the prevalent fashion for breaking away from tradition both in colouring and names, and some ships of a company are painted in one colour and some in another, such as the Orient liners; a little time ago the company decided to try out a deep cream colour for the hulls and so far two ships only have been so painted, the others remaining black.

## Ships and the Sea

The Peninsular and Oriental introduced the white-painted *Strath* class, and beautiful ships as they may be they do not look like P. & O. liners, but more like Canadian Pacific *Empresses*.

By far the majority of ships have black hulls, but quite a number have grey and a few have green, but these exceptions must be learnt.

White is increasingly popular and it is stated that a ship so painted is twelve degrees cooler than one painted black. All Canadian Pacific *Empresses* have white painted hulls and three buff funnels.

Many ships have coloured or white bands running right round the hulls, and this helps very much in recognising them. All Canadian Pacific *Empresses*, in addition to being white as just mentioned, have a blue band round them, whereas the P. & O. *Straths*, which are also white painted with three buff funnels, do not.

Before we move away from hulls there is still a further point which helps considerably and that is the colouring of the boot-topping or the strip of paint along the waterline.

In the two instances just given, the Canadian Pacific have green waterlines and the *Straths* have red.

The general colour for this boot-topping is red but there are many exceptions, among which are pink, green, blue, red with thin white dividing line between the red and the black hull, and white.

The next thing to note is the colour of the upperworks, which in the majority of cases is white. The P. & O., with the exception of the white-painted *Straths*, have a deep coffee colour, officially termed "stone," and this to my mind is magnificent although many people consider it very dingy. A P. & O. with stone-coloured uppers, white-banded black hull and large plain black funnels, has an atmosphere entirely lacking from her lighter consorts.

Some years ago some of the Nelson ships, which unfortunately have now been



## Some Hints for Recognition of Liners

merged into the Royal Mail Line, were given pale green upperworks with a view to counteracting the glare of the sun on the white paint.

Most of the companies associated with the P. & O. had the same stone-coloured uppers until a short time ago, but the principal of these, the British India, has now reverted to white, although the General Steam Navigation, the Eastern and Australian and the Australasian United still keep the stone.

Some companies may be recognised by the colour of their life-boats, as for example, two of the lines just named; the British India have black and the General Steam, a rich blue. The Canadian Pacific *Empresses* have brown boats, either painted or polished wood.

Masts and spars vary in colour. Most companies have a deep reddish-brown, called "Mast colour," but some have cream, yellow, grey or white, and this is sometimes the only difference between them. Both the Anchor and the Henderson liners are painted with black hulls, red boot-topping divided by thin white line and both have plain black funnels, but the Anchor have brown masts, and the Henderson grey.

Lamport & Holt and Brocklebank liners have white masts but the former have grey derricks and the latter have white. Houlder ships also have all-white masts and derricks.

Funnels are a chief means of identification although if taken without consideration to all the points already mentioned they may be a trap because many companies have the same funnel colouring; as an example, both the Canadian Pacific ships, other than the *Empresses*, and the Pacific Steam Navigation ships have black hulls with green waterlines and buff funnels but the Pacific Steam are all single funnelled whereas the others have two apiece.

The Pacific Steam have as an exception the white-painted *Reina del Pacifico*, but she cannot be mistaken for an *Empress* because she has only two funnels, she has white boats and no blue band round her hull; also she has white masts.

## **Ships and the Sea**

As soon as you think that you have got the hang of the thing some infernal exception comes along and upsets all your ideas.

Many of the funnels of shipping companies have interesting associations, such as those of the Nitrate Producers' Steamship Company, which are painted in the racing colours of the late Colonel North, the nitrate king, and those of the Bulk Oil Company, which carry the colours of the British Military Cross ribbon because one of the directors of the company was awarded this decoration during the Great War.

Some buff colours are said to have been given because they were considered to harmonize with tropical sunsets and the shades of buff and yellow certainly do vary pretty considerably.

When mergers or amalgamations of lines take place the colour of funnels of the combined company is sometimes a combination of the two.

With regard to colouring, almost the last thing to note is the colour of the large ventilators both outside and inside the cowls; those grouped round the funnel, the stoke-hold or engine-room vents, are usually the same colour as the funnels and more often than not this is carried throughout, but in others, such as the Cunard ships, they are all white outside and very bright red inside the cowl.

Royal Mail ships have white ventilators with buff inside and Booth liners have black outside with green in.

Finally the crow's nest, high up on the foremast, may help, as some companies, such as the former White Star and many of the larger P. & O. ships, have white painted ones.

Having taken in all the essential points of colouring the next thing is to note the ship's build although unfortunately many ships are again losing their personality because of the modern craze for uniformity; companies which formerly went in for two tall thin funnels now have one large fat one and so on, but notwithstanding this there are certain guides which may help.

## Some Hints for Recognition of Liners

All Bibby liners are readily recognised on account of their pink funnels with black tops and their four lofty masts.

Most P. & O. and Royal Mail ships have hydraulic deck cranes instead of the more customary derricks, and it is said that the former company adopted them because they were less noisy in working and in consequence did not rouse the ire of hot-tempered passengers.

The French Messageries Maritimes have deck cranes of a quite distinctive type, as also do the motor liners of the Dutch Rotterdam Lloyd Company.

The earlier Royal Mail ships have an island bridge; that is to say there is a break between the passenger accommodation and the quarters for the navigating officers. Many Harland & Wolff products have the same characteristic.

Orient and Anchor liners have "cowl-topped" funnels which look like very shallow hats.

From this stage it is only a matter of experience or study to be able to identify actual vessels.

If you see a four-funnelled Cunard ship you know that she must be the *Aquitania* because she is the only one in the fleet. Three of the six "A" class Cunarders may be picked out from the other three because they have an island bridge, as described above.

Number and position of derrick posts, number of funnels and masts, shape and size of funnels all have to be taken into consideration but there is much that cannot be adequately explained. A seaman will tell you that a ship looks German or looks French, but it is difficult to explain why.

If you are near enough to read a ship's name through glasses you are much nearer a solution of the problem of ownership, although here again, look out for traps. I have finished up with a list which may be useful and interesting as a general guide but remember that there are dozens of exceptions and much depends upon colouring. If you see a ship whose name terminates in "IA" do not jump to the conclusion

## **Ships and the Sea**

that she is a Cunarder because she might equally be an Anchor, a Donaldson or a Donaldson-Atlantic.

All vessels belonging to a particular line may be named after the same system, but it does not follow that all ships so named belong to that particular company; all Union Castle ships are "Castles" but all "Castles" do not belong to the Union Castle.

## CHAPTER XXXVIII

# Some Systems of Nomenclature Adopted by Shipping Companies

### Two or More Words, the First of Which is :—

AMERICAN	.	.	.	United States Line (American)
ANGLO-	.	.	.	Lawther Latta & Co.
BARON	.	.	.	Hogarth & Co.
BATAVIER	.	.	.	W. M. Muller & Co. (Dutch)
BLACK	.	.	.	American Diamond Lines (American)
BRITISH	.	.	.	British Tanker Co.
CABO SAN	.	.	.	Ybarra & Co. (Spanish)
CAP	.	.	.	Chargeurs Réunis (French)
CAP	.	.	.	Hamburg Süd-Amerikanische (German)
CAPE	.	.	.	Lyle Shipping Co.
CAPE ST.	.	.	.	Sun Shipping Co.
CITTA DI	.	.	.	Tirrenia (Italian)
CITY OF (American Cities)				Baltimore Mail (American)
				Ocean S.S. Co. of Savannah (American)
CITY OF (British cities mostly)	.	.	.	Ellerman Lines

## Ships and the Sea

CIUDAD DE . . .	Comp. Trasmediterranea (Spanish)
CLAN . . .	Clan Line
DJEBEL . . .	Comp. de Navigation Mixte (French)
DUCHESS OF . . .	Canadian Pacific Steamships
EL- . . .	Comp. de Navigation Mixte (French)
EL . . .	Southern Pacific S.S. Co. (American)
EMPRESS OF . . .	Canadian Pacific Steamships
ESSEX . . .	Meldrum & Swinson
GIBEL . . .	M. H. Bland & Co.
GOLDEN . . .	Oceanic & Oriental S.S. Co. (American)
HIGHLAND . . .	Royal Mail Lines
JAMAICA . . .	Jamaica Banana Producers' S.S. Co.
KING . . .	Dodd, Thompson & Co.
KONG . . .	Sondenfeldske (Norwegian)
KOTA . . .	Rotterdam Lloyd (Dutch)
LADY . . .	British & Irish S.P. Co. and Canadian National W. Indies
MANCHESTER . . .	Manchester Liners
MAR . . .	Urquijo & Aldecoa (Spanish)
MONTE . . .	Hamburg Süd-Amerikanische (German)
OUED . . .	Cie. de Navigation Paquet (French)
PACIFIC . . .	Furness Lines
POELAU . . .	Nederland Line (Dutch)
PORT . . .	Commonwealth & Dominion Line
PRESIDENT . . .	American Mail Line, Dollar S.S. Lines and United States Lines (American)
PRINCE . . .	Canadian National W. Indies

## Some Systems of Nomenclature Adopted by Shipping Companies

PRINCESS	.	.	.	Canadian Pacific Railway
QUEEN	.	.	.	Thos. Dunlop
RIO	.	.	.	Thompson S.S. Co.
SAINT	.	.	.	Comp. Navale de l'Ouest (French)
ST.	.	.	.	North of Scotland & Orkney & Shetlands S.N. Co.
SAN	.	.	.	Eagle Oil & Shipping Co. United Fruit Co. (American), and States S.S. Co. (American)
SANTA	.	.	.	Grace Lines (American)
SCOTTISH	.	.	.	Tankers Ltd.
SEA	.	.	.	Dover Navigation Co.
SHEAF	.	.	.	W. A. Souter & Co.
SIDI	.	.	.	Soc. Gen. de Trans. Maritimes (French)
STAD	.	.	.	Halcyon Line (Dutch)
TEMPLE	.	.	.	Lambert Bros.
THE (followed by title of nobility)	.	.	.	J. Hay & Son
ULSTER	.	.	.	Belfast S.S. Co.
VAN	.	.	.	Konink. Paketvaart S.M. (Dutch)
VILLE DE	.	.	.	Nouvelle Comp. Havraise Péninsulaire (French)

## One Word with the Following Prefixes :—

A (and ending in A)	.	.	.	Yeoward Line and John Bruce
ATHEL	.	.	.	United Molasses
BALT	.	.	.	United Baltic Corporation
BARR	.	.	.	Barr, Crombie & Co.
BEAVER	.	.	.	Canadian Pacific Steamships



## Ships and the Sea

BEL	.	.	.	C. Smith (Norwegian)
BEN	.	.	.	Ben Line (W. Thomson)
BLAIR	.	.	.	G. Nisbet & Co.
CAIRN	.	.	.	Cairns, Noble & Co.
CAMP	.	.	.	Comp. Arrendataria del Monopolio (Spanish)
COR	.	.	.	Cory Colliers Ltd., and Donaldson South American Line
DAG	.	.	.	J. P. Pedersen (Norwegian)
DAL	.	.	.	Campbell Bros. and J. M. Campbell
EX	.	.	.	American Export Lines (American)
FERN	.	.	.	Fearnley & Eger (Norwegian)
GLEN	.	.	.	Glen Line Ltd.
GULF	.	.	.	Gulf Refining Co. (American)
H	(Names	of	Greek	
	deities)	.	.	Houston Line
HAR	.	.	.	J. & C. Harrison
HOPE	.	.	.	A. Stott & Co.
ITA	.	.	.	C. de Nav. Costeira (Brazilian)
INVER	.	.	.	British Mexican Petroleum Co.
JALA	.	.	.	Scindia S. Nav. Co.
LAIRDS	.	.	.	Burns & Laird Lines
LANGLEE	.	.	.	F. Carrick & Co.
LOCH	.	.	.	David MacBrayne
LU	.	.	.	H. E. Moss
MA	.	.	.	Matson Line (American)
MONT	.	.	.	Canadian Pacific Steamships
MUN	.	.	.	Munson Line (American)
OIL	.	.	.	Arthur Rapp & Co.

## Some Systems of Nomenclature Adopted by Shipping Companies

OR	.	.	.	.	Orient Line
PEN	.	.	.	.	Perman & Co.
SILVER	.	.	.	.	S. & J. Thompson
THISTLE	.	.	.	.	Allan Black & Co.
TJI	.	.	.	.	Java-China-Japan Line (Dutch)
TRE	.	.	.	.	Hain & Co.
UM	.	.	.	.	Bullard King & Co.
USK	.	.	.	.	R. Jones & Co.
V (and ending in A)	.	.	.	.	Gow, Harrison & Co.

### Classes of Name.

AFRICAN PLACE NAMES	.	.	.	.	Elder Dempster Lines
BIRDS	.	.	.	.	General Steam Navigation Co.
BURMESE	.	.	.	.	P. Henderson & Co.
COMPOSERS (Italian)	.	.	.	.	Adria S.N. Co. (Italian)
COUNTIES (English)	.	.	.	.	Federal S.N. Co.
„ (Scottish)	.	.	.	.	B. J. Sutherland & Co.
GREEK HEROES	.	.	.	.	Alfred Holt (Blue Funnel)
GEMS	.	.	.	.	Wm. Robertson & Co.
LIGHTHOUSES	.	.	.	.	Clyde Shipping Co.
INDIAN RANKS	.	.	.	.	Jas. Nourse
LONDON SUBURBS	.	.	.	.	Watts, Watts & Co., South Metropolitan Gas Co. and Wandsworth Gas Co.

MUSICAL TERMS ending in 'O' Pelton S.S. Co.

NEW ZEALAND NAMES

(Maori)	.	.	.	.	New Zealand S. Co., Shaw, Savill & Albion and Union S.S. Co., Ltd.
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## Ships and the Sea

PAINTERS, POETS, ETC..	Glover Bros., Lamport & Holt Line and (Italian poets and composers) Adria S.N. Co. (Italian)
PROFESSIONS . . .	T. & J. Harrison
SHIRES (English) . . .	Bibby Line
„ (Scottish) . . .	Turnbull Martin & Co.
„ (Welsh) . . .	Glen & Shire Line
TITLES OF NOBILITY . . .	J. Hay & Son.

### Two or More Words, the Last of Which is:—

BAY . . . . .	Aberdeen & Commonwealth Line
CASTLE . . . . .	Union Castle Mail S.S. Co. and J. Chambers & Co. (North Country Castles)
CITY . . . . .	Bristol City Line and Reardon Smith & Co.
COAST . . . . .	Coast Lines Ltd.
COOMBE . . . . .	Ald Shipping Co.
CORDS . . . . .	A. C. Cords (German)
COURT . . . . .	Haldin & Philipps
DOLLAR . . . . .	Dollar S.S. Lines (American)
FISHER . . . . .	Jas. Fisher
FORCE . . . . .	W. S. Kennaugh & Co.
GRANGE . . . . .	Houlder Bros.
HALL . . . . .	West Hartlepool S.N. Co.
HEAD . . . . .	A. F. Henry & MacGregor & Co., and G. Heyn
HOLT . . . . .	John Holt
HORN . . . . .	Horn Line (German)
KNUDSEN . . . . .	K. Knutsen
DE LARRINAGA . . . . .	Larrinaga S.S. Co.

## Some Systems of Nomenclature Adopted by Shipping Companies

LUCKENBACH	.	.	.	Luckenbach S.S. Co. (American)
MÆRSK	.	.	.	A. P. Möller (Danish)
MENDI	.	.	.	Sir Ramon de la Sota
MONARCH	.	.	.	Raeburn & Verel
PRINCE	.	.	.	Prince Line
RICKMERS	.	.	.	Rickmers & Co. (Germany)
ROSE	.	.	.	R. Hughes & Co.
SANG	.	.	.	Indo-China Nav. Co.
SCHIAFFINO	.	.	.	Schiaffino & Co. (France)
SOCONY	.	.	.	Standard Vacuum Transportation Co. (American)
STAR	.	.	.	Blue Star Line
WO	.	.	.	Indo-China Nav. Co.

### Single Words with the following Suffixes:—

AAS	.	.	.	Morland & Co. (Norwegian)
ANGER	.	.	.	Westfal-Larsen & Co. (Norwegian)
AREN	.	.	.	Transatlantic Co. (Swedish)
BANK	.	.	.	Andrew Weir
BEATH	.	.	.	T. L. Duff
BORG	.	.	.	C. K. Hansen (Danish)
BRIDGE	.	.	.	Crosby Son & Co.
BURY	.	.	.	Capper, Alexander
RY	.	.	.	Ropner & Co.
DAM	.	.	.	Holland-America Line (Dutch)
DIJK	.	.	.	Holland-America Line (Cargo vessels)
DRECHT	.	.	.	Van Ommeren & Co. (Dutch)
FELS	.	.	.	Hansa Line (German)

## Ships and the Sea

FIELD . . .	Hunting & Son, and E. J. Sutton
FJELL . . .	Olsen & Ugelsted (Norwegian)
FJORD . . .	Norske-Amerika Line (Norwegian)
FONTein . . .	Vereenigde Nederland (Dutch)
GATE . . .	Turnbull Scott & Co.
HAVEN . . .	Van Uden (Dutch)
HOLM . . .	Svenska Amerika and Svenska Amerika-Mexiko Line (Swedish)
IA . . .	Cunard White Star, Donaldson, and Svenska Lloyd (Swedish)
IAN . . .	United African
IC . . .	Cunard White Star
INGE . . .	Constant Martin
ITY . . .	F. Everard (Begin with A)
KERK . . .	Vereenigde Nederland (Dutch)
LAND . . .	Brostrom (Sweden), and Konink. Holland. Lloyd (Dutch)
LEIGH . . .	W. J. Tatem & Co.
LITE . . .	Imperial Oil Co.
MOOR . . .	Runciman & Co.
O . . .	Ellerman's Wilson Line & Pelton S.S. Co., (Musical terms)
ORE . . .	Ore Shipping Co. (American)
PARK . . .	Denholm
POOL . . .	R. Ropner & Co.
RIX . . .	Rix & Sons
SEE . . .	W. Schuchmann (German)
SIDE . . .	Charlton McAllum & Co.
STAD . . .	A. F. Klaveness (Norwegian)

## Some Systems of Nomenclature Adopted by Shipping Companies

STAN	.	.	.	Common Bros., and F. C. Strick
STON	.	.	.	W. S. Miller
STROOM	.	.	.	Hollandsche S.M. (Dutch)
TON	.	.	.	R. Chapman
US	.	.	.	W. S. Seager & Co.
VARD	.	.	.	Kloster (Norwegian)
VATI	.	.	.	Bombay S.N. Co.
VIKEN	.	.	.	Wallem & Co. (Norwegian)
VILLE	.	.	.	Comp. Maritime Belge (Passenger ships) (Belgium)
WIJK	.	.	.	Erhardt & Dekkers (Dutch)
WOOD	.	.	.	Constantine Shipping Co., France Fenwick & Co., and John I. Jacobs & Co.
WORTH	.	.	.	R. S. Dalgliesh

## CHAPTER XXXIX

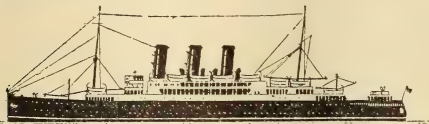
### Some Well Known Merchant Vessels of all Nations

(All British Vessels built in Empire unless otherwise stated)

ALL are drawn to a scale of 300 feet to 1 inch; the tonnage is taken to nearest 100 tons and the ships are arranged according to recognition, funnel colouring being taken first and then number of funnels, spacing and general build.

Funnels are arranged in alphabetical order of colouring; that is to say, *Black funnels*, then *Black funnels with markings*, *Blue funnels*, etc.

*Black funnels*



**Caledonia, Transylvania.**—Anchor, British; 17,000 tons, 578 feet overall, twin-screw,  $15\frac{1}{2}$  knots. Built in 1925 and run in the passenger service between the Clyde and New York.



**Naldera, Narkunda.**—P. & O., British; 16,100/16,600 tons, 600 feet long overall, twin-screw,  $17\frac{1}{2}$  knots. Built in 1918 and 1920 and run in mail and passenger service between Tilbury and Australia or Far East. *Naldera* does not have raised fore-castle.



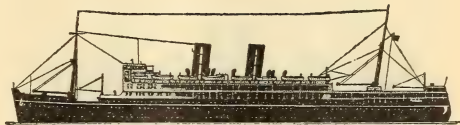
## Some Well Known Merchant Vessels of All Nations

*Black funnels*

**Champollion.**—Messageries Maritimes, French; 12,500 tons, 495 feet long, twin-screw, 17½ knots. Built in France in 1924 and runs in mail and passenger service between Marseilles and the East. *Mariette Pacha* is a sister ship, except that she does not have a Maier bow and in consequence is about two knots slower.



**Viceroy of India.**—P. & O., British; 19,700 tons, 612 feet long overall, twin-screw, turbo-electric vessel of 20 knots. Built in 1929 and runs in mail and passenger service between Tilbury and Bombay or on pleasure cruises. A very popular ship and the first turbo-electric P. & O.: can be distinguished from other P. & O.'s by her derricks instead of deck cranes.



**Maloja, Mooltan.**—P. & O., British; 21,000 tons, 601 feet long, twin-screw, 17½ knots. Built in 1923 and run in mail and passenger service between Tilbury and Australia. Very similar ships in appearance but smaller are *Rajputana*, *Ranchi*, *Ranpura* and *Rawalpindi*.





**Moldavia.**—P. & O., British; 16,600 tons, 573 feet long overall, twin-screw, 16 knots. Built in 1922 and runs in tourist service between Tilbury and Australia and is also a popular cruising ship. As originally built she only had one funnel. A somewhat similar ship, but much lighter looking and with thinner funnels is *Kaisar-I-Hind*.

**Kaisar-I-Hind.**—P. & O., British; 11,500 tons, 520 feet long, twin-screw, 17 knots. Built in 1914 and runs in passenger service between Tilbury and Bombay and is one of the most popular vessels in the fleet. During the war she was five times attacked by submarines.

**André Lebon.**—Messageries Maritimes, French; 13,700 tons, 508 feet long, twin-screw, 14 knots. Built in France in 1913 and runs in mail and passenger service between Marseilles and Far East. Very similar ships in appearance are *Sphinx*, *Porthos*, *Bernardin de Saint Pierre* and *Explorateur Grandidier*.

## Some Well Known Merchant Vessels of All Nations

*Black funnels*

**Chella.**—Comp. Paquet, French; 9,000 tons, 453 feet long overall, twin-screw, 20 knots. Built in France in 1934, looks like a motor ship and runs in the mail and passenger service between Marseilles and Northern Africa.



**Felix Roussel.**—Messageries Maritimes, French; 16,800 tons, 562 feet long, twin-screw motor vessel of 15 knots. Built in France in 1930 and runs in the mail and passenger service between Marseilles and the East. Is being altered slightly and may have Maier bow fitted. Similar ships in appearance but smaller and with cruiser sterns, *Eridan*, *Jean Laborde* and *Maréchal Joffre*.



**Slamat.**—Rotterdam Lloyd, Dutch; 11,600 tons, 510 feet long, twin-screw, 17 knots. Built in Netherlands in 1924 and runs in mail and passenger service between Netherlands and Netherlands East Indies. Lengthened and speed increased in 1931.

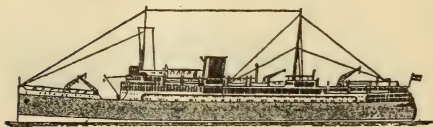


## Ships and the Sea

### *Black funnels*



**Sibajak.**—Rotterdam Lloyd, Dutch; 12,100 tons, 530 feet long overall, twin-screw, motor vessel, 17 knots. Built in Netherlands in 1927. Runs in mail and passenger service between Netherlands and Netherlands East Indies. Very similar ship but with derricks instead of deck cranes, *Indrapoera*.



**Baloeran, Dempo.**—Rotterdam Lloyd, Dutch; 17,000 tons, 574 feet long overall, twin-screw motor vessels of 18 knots. Built in Netherlands in 1929-30 and run in mail and passenger service between Netherlands and Netherlands East Indies.



**Amarapoora, Kemmaidine, Pegu, Sagaing, Yoma.**—Henderson, British; 8,000 tons, 466 feet long, 14 knots. Built between 1920 and 1928 and run in first-class passenger service between Glasgow and Rangoon. All ships are not quite alike and *Yoma* has a raking stem.

## Some Well Known Merchant Vessels of All Nations

*Black funnels*

**Hilary.**—Booth, British; 7,400 tons, 424 feet long, 15 knots. Built in 1931 and runs in passenger service between Liverpool and Brazil. Conducts the well known trip 1,000 miles up the Amazon and can be recognised by half-white masts.



**President Doumer.**—Messageries Maritimes, French; 12,700 tons, 467 feet long, twin-screw motor vessel of 17 knots. Built in France in 1934 and runs in mail and passenger service between Marseilles and the East.

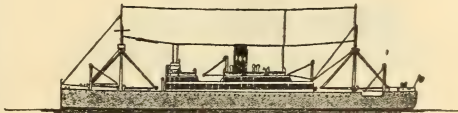


**Cabo San Agustin, Cabo Santo Tomé.**—Ybarra, Spanish; 12,600 tons, 483 feet long, twin-screw motor vessels. Built in Spain in 1931 and run in passenger service between Spain and South America. Largest Spanish ships and identical ship with only one funnel is *Cabo San Antonio*.

*Black funnels with marking*



**City of Hongkong.**—Ellerman Bucknall, British; 9,600 tons, 490 feet long overall, 12 knots. Built in 1924 and runs in passenger service between England and South Africa.



## Ships and the Sea

*Black funnels with markings*



**Itanagé, Itapagé, Itapé, Itaquicé.**—Comp. Costeria, Brazilian; 5,000 tons, 371 feet long, twin-screw motor vessels. Built in France and England in 1927 and 1928. Run in passenger service on Brazilian Coast.

**Tjikarang.**—Java-China, Dutch; 9,500 tons, 484 feet long, 12½ knots. Built in Netherlands in 1922 and runs between Netherlands East Indies and Chinese ports.

**Tjinegara, Tjisadane.**—Java-China, Dutch; 9,200 tons, 441 feet long, motor vessels of 15 knots. Built in Netherlands in 1931 and run in passenger and cargo service between Netherlands East Indies and Chinese ports.

**Argentina, Brasil, Nordstjernan, Uruguay.**—Johnson Line, Swedish; 5,300 tons, 421 feet long, twin-screw, motor vessels of 16 knots. Built in Sweden in 1935 and run in passenger and cargo service between Sweden and South America or North Pacific ports. Similar ships in appearance are *Annie Johnson*, *Axel Johnson* and *Margaret Johnson*.



## Some Well Known Merchant Vessels of All Nations

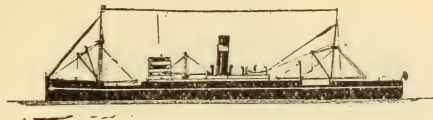
*Black funnels, coloured bands*

**Mangalore Mathura.**—Brocklebank, British; 8,900 tons, 450 feet long,  $13\frac{1}{2}$  knots. Built in 1920 and runs in cargo service between the Clyde and Calcutta. She is typical of most Brocklebank ships, which can be recognised by their white masts. She carries about 14,900 tons deadweight.

**Talleyrand.**—Wilhelmsen, Norwegian; 6,700 tons, 461 feet long, twin-screw, motor vessel of  $14\frac{1}{2}$  knots. Built in Germany in 1927 and runs in service between Norway and United States or Far East. Representative of a very large type of ships owned by this company all the names of which begin with "T".

**C. O. Stillman.**—Imperial Oil, British; 16,400 tons, 600 feet long overall, twin-screw, 11 knots. Built in Germany in 1928 and is the largest oil-tanker in the world, carrying about 22,700 deadweight.

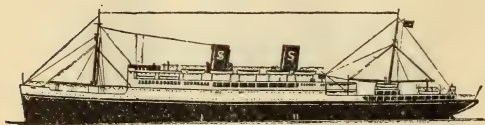
**Aagtekerk, Almkerk.** — United Netherlands, Dutch; 6,800 tons, 493 feet long overall, twin-screw, motor vessels of 17 knots. Built in Netherlands in 1934 and run in cargo service between Netherlands and South Africa.





## Ships and the Sea

*Black funnels, coloured bands*



**Bloemfontein, Jagersfontein.**—United Netherlands; 10,100 tons, 487 feet long overall, twin-screw, motor vessels of 16 knots. Built in Netherlands in 1934 and run in passenger service between Netherlands and S. Africa. *Bloemfontein* was launched by wireless from Pretoria.

**Royal Archer, Royal Fusilier.**—London & Edinburgh, British; 2,300 tons, 300 feet long overall, 14 knots. Built in 1928 and 1924 and run in passenger and cargo service between Leith and London. Very popular ships with tourists in the summer months.

**Campana.**—Transports Maritimes, French; 10,800 tons, 511 feet long, twin-screw, 15 knots. Built in England in 1929 and runs in mail and passenger service between Marseilles and South America. Similar ships in appearance are *Florida*, *Alsina* and *Mendoza*.

**President Coolidge, President Hoover.**—Dollar, American; 21,900 tons, 653 feet long overall, twin-screw, turbo-electric vessels of 21 knots. Built in United States in 1931 and run in passenger service between San Francisco and Manila.

## Some Well Known Merchant Vessels of All Nations

*Black funnels, coloured bands*

**President Cleveland, President Lincoln, President Pierce, President Taft, President Wilson.**—Dollar, American; 12,600 tons, 539 feet long overall, twin-screw, 18 knots. Built in United States in 1921 and run in service between San Francisco and Far East. Have “goal-post” masts and somewhat similar ships are *President Adams, President Garfield, President Harrison, President Hayes, President Monroe, President Polk* and *President Van Buren*.



**Dunster Grange, Upwey Grange.**—Houlder, British; 9,500 tons, 431 feet long, twin-screw, motor vessels of 15 knots. Built in 1928 and 1925 and run in the cargo service between London and the River Plate, carrying huge quantities of frozen and chilled meat.



**Monarch of Bermuda, Queen of Bermuda.**—Furness, British; 22,500 tons, 579 feet long overall, quadruple screw, turbo-electric vessels of 21 knots. Built in 1931 and 1933 and run in the luxury service between New York and Bermuda.



## Ships and the Sea

*Black funnels, coloured bands*



**Eastern Prince, Northern Prince, Southern Prince, Western Prince.**—Prince Line, British; 10,900 tons, 496 feet long, twin-screw, motor vessels of 16½ knots. Built in 1929 and run in passenger and cargo service between New York and South America.

**Clan Urquhart.**—Clan, British; 9,600 tons, 526 feet long, 14 knots. Built in 1911 and runs in company's cargo service British Isles and Australasia. Easily recognised by her five masts and has a very large refrigerating capacity.

**Inanda, Ingoma.**—T. & J. Harrison, British; 6,000 tons, 407 feet long, 14 knots. Built in 1925 and 1913 and run in first-class passenger service between Liverpool and West Indies. *Ingoma* has less enclosed promenade decks; their funnel colouring gives them the nickname of "two of fat and one of lean."

**Collegian, Craftsman, Politician, Statesman.**—T. & J. Harrison, British; 7,900 tons, 450 feet long, 14½ knots. Built in 1922 and engaged in company's world-wide cargo service, carrying about a dozen passengers; have "goal-post" masts.

## Some Well Known Merchant Vessels of All Nations

*Black funnels, coloured bands*

**California, Pennsylvania, Virginia.** — American Lines, American; 17,800 tons, 574 feet long, twin-screw, turbo-electric vessels of 18 knots. Built in United States in 1928 and run in passenger service between Pacific coast and New York.



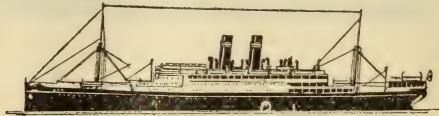
**Athenia, Letitia.** — Donaldson-Atlantic, British; 13,500 tons, 526 feet long, twin-screw, 15 knots. Built in 1923 and 1925 and run in passenger service between the Clyde and Canada.



**El-Djezair, El-Mansour.** — Comp. Mixte, French; 5,800 tons, 403 feet long overall, twin-screw, 20 knots. Built in France in 1933 and run in the mail and passenger service between Marseilles and Northern Africa. Similar ship in appearance but with thinner funnels *El-Kantara*.



*Black funnels, coloured bands*



**Pennland, Westernland.**—Red Star, German; 16,100 tons, 600 feet long overall, triple-screw, 16½ knots. Built in Ireland in 1922 and 1918 and run in service between Hamburg and United States. Originally under British flag and carry a large number of motor cars.

**Taiyo Maru.**—Nippon Yusen, Japanese; 14,500 tons, 600 feet long overall, twin-screw, 19 knots. Built in Germany in 1911 and runs in trans-Pacific service.

**Asama Maru, Tatsuta Maru.**—Nippon Yusen, Japanese; 17,000 tons, 560 feet long, quadruple-screw, motor vessels of 21 knots. Built in Japan in 1930 and run in mail and passenger service between Japan and San Francisco. Largest Japanese merchant vessels.

**Hakone Maru, Hakozaki Maru, Hakusan Maru, Haruna Maru.**—Nippon Yusen, Japanese; 10,400 tons, 495 feet long, twin-screw, 16½ knots. Built in Japan between 1921 and 1923 and run in mail and passenger service between Japan and Europe. Very similar ships in appearance *Fushimi Maru, Suwa Maru, Katori Maru, Kashima Maru, Kamo Maru, Atsuta Maru.*

## Some Well Known Merchant Vessels of All Nations

*Black funnels, coloured bands*

**Terukuni Maru, Yasukuni Maru.**—Nippon Yusen, Japanese; 11,900 tons, 507 feet long, twin-screw, motor vessels of 18 knots. Built in Japan in 1930 and run in passenger and cargo service between Japan and London.

**Chichibu Maru.**—Nippon Yusen, Japanese; 17,500 tons, 560 feet long, twin-screw, motor vessel of 21 knots. Built in Japan in 1930 and runs in trans-Pacific service. A single funnelled edition of *Asama Maru* class.

**Heian Maru, Hikawa Maru, Hiye Maru.**—Nippon Yusen, Japanese; 11,600 tons, 512 feet long, twin-screw, motor vessels of 18½ knots. Built in Japan in 1930 and run in passenger service between Japan and North Pacific ports.

**Costa Rica.**—Royal Netherlands, Dutch; 8,700 tons, 472 feet long overall, twin-screw, 15½ knots. Built in Netherlands in 1910 and runs in mail and passenger service between Netherlands and Central America. Originally was *Prinses Juliana* of Nederland Line and was completely rebuilt and a second funnel added in 1932.





## Ships and the Sea

*Black funnels, coloured bands*



**Colombia.**—Royal Netherlands, Dutch; 10,800 tons, 457 feet long overall, twin-screw, motor vessel of  $15\frac{1}{2}$  knots. Built in Netherlands and runs in mail and passenger service between Netherlands and Central America.

**Oriente.**—Ward Line, American; 11,500 tons, 508 feet long, twin-screw, turbo-electric vessel of 20 knots. Built in United States in 1930 and runs in passenger service between New York and Cuba.

**Ilmatar, Wellamo.**—Finska, Finnish; 2,400 tons, 270 feet long,  $14\frac{1}{2}$  knots, built in Denmark in 1929, 1927. Run in passenger service between Finland and British Isles and are strengthened for ice navigation.

**Takachiho Maru.**—Osaka, Japanese; 8,200 tons, 473 feet long overall, twin-screw,  $16\frac{1}{2}$  knots. Built in Japan in 1934 and runs in passenger service between Japan and South America. Very similar ships *Buenos Aires Maru*, *Rio de Janeiro Maru*.

**Tairea, Takliwa, Talamba.**—British India, British; 8,000 tons, 450 feet long, twin-screw, 16 knots. Built in 1924 and run in passenger service between India and South Africa.



## Some Well Known Merchant Vessels of All Nations

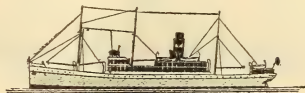
*Black funnels, coloured bands*

**Madura, Malda, Mantola, Matiana, Modasa, Mulbera.**—British India, British; 9,100 tons, 465 feet long, twin-screw, 13 knots. Built in 1921 and 1922 and run in passenger service between British Isles and Calcutta. Very similar ships, but without cruiser stern, *Manela* and *Mashobra*.

**Venus.**—Bergen S.S. Co., Norwegian; 5,400 tons, 399 feet long, twin-screw motor vessel of 19½ knots. Built in Norway in 1931 and runs in mail and passenger service between Bergen and Newcastle. The largest and fastest ship in the service.

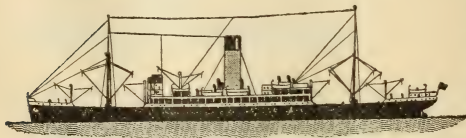
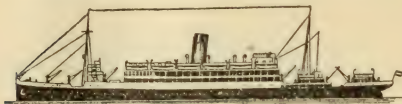
**Hai Chen, Hai Heng, Hai Li.**—China Merchants, Chinese; 3,400 tons, 329 feet long. Built in England in 1934. Run in passenger service around China coasts and have English officers.

**Aguila, Alca, Alondra, Ardeola, Avoceta.**—Yeoward, British; 3,100–3,700 tons, 320 feet long, 13 knots. Built between 1917 and 1923 (*Ardeola* 1912), and run in passenger service between Liverpool and Las Palmas. Very popular ships and among the very earliest to cater for cruising passengers.



## Ships and the Sea

*Blue funnels, black top*



**Antenor, Hector, Patroclus, Sarpedon.**—Blue Funnel, British; 11,300 tons, 499 feet long, twin-screw, 15 knots. Built between 1923 and 1925 and run in passenger service from Liverpool to the Far East.

**Kraljica Marija.**—Jugoslav Lloyd, Yugoslavian; 10,200 tons, 515 feet long, twin-screw, 15 knots. British built in 1906 and runs in passenger service between Yugoslavia and Adriatic and Mediterranean ports. Formerly the Royal Mail *Araguaya*.

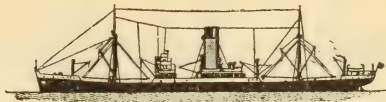
**Princesa Olga.**—Jugoslav Lloyd, Yugoslavian; 8,500 tons, 450 feet long, twin-screw, 15 knots. British built in 1915 and runs in passenger service between Yugoslavia and Adriatic and Mediterranean ports. Formerly the Pacific Steam *Ebro*.

**Nestor, Ulysses.**—Blue Funnel, British; 14,600 tons, 570 feet long, twin-screw, 13½ knots. Built in 1914 and run in passenger service (with large cargo capacity) between Liverpool and Australia. *Nestor* does not have raking stem and both have tremendous funnels.

## Some Well Known Merchant Vessels of All Nations

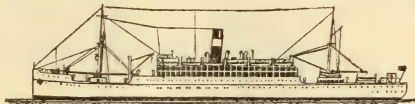
**Adrastus.**—Blue Funnel, British; 7,900 tons, 459 feet long, 14½ knots, built in 1923 and runs in company's world-wide cargo service. Typical of many of the company's ships, having distinct sag.

*Blue funnels, black top*



**Vandyck, Voltaire.**—Lamport & Holt, British; 13,200 tons, 535 feet long overall, twin-screw, 15 knots. Built in 1921 and 1923 and are purely cruising liners.

*Blue funnel, white band, black top*



**Jamaica Pioneer, Jamaica Producer, Jamaica Progress.**—Jamaica Banana Producers' S.S. Co., British; 5,300 tons, 410 feet long, 16 knots. Built in 1931-1934 and run in fruit and passenger service between London and Jamaica, carrying about 10,000,000 bananas each trip. *Producer* has a cruiser stern.

*Blue funnel, 2 white bands, black top*



## **Ships and the Sea**

*Green funnels, white band, black top*

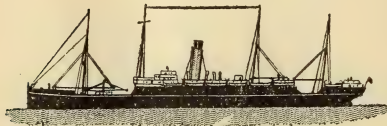


**Santa Elena, Santa Lucia, Santa Paula, Santa Rosa.**—Grace, American; 9,100 tons, 508 feet long overall, twin-screw, 20 knots. Built in United States in 1932 and run in passenger service between New York and Pacific Coast or West Coast of South America. Special smoke-deflecting cowl on fore-funnel.

*Pink funnels, black top*



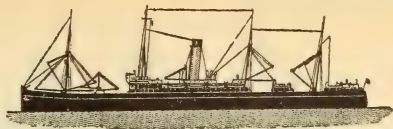
**Worcestershire.**—Bibby, British; 11,500 tons, 483 feet long, twin-screw motor vessel. Built in 1931 and runs in first-class mail and passenger service between Liverpool and Rangoon. *Derbyshire* is very similar ship and all Bibby vessels have four lofty masts.



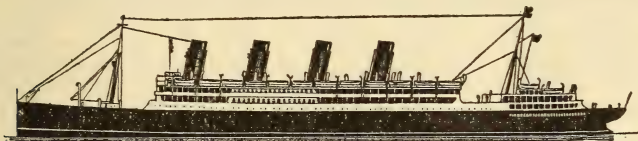
**Oxfordshire.**—Bibby, British; 8,600 tons, 474 feet long, twin-screw, 15 knots. Built in 1912 and runs in mail and passenger service between Liverpool and Rangoon. The only pre-war Bibby left and had a very distinguished war record, steaming over 172,000 miles as hospital ship without any machinery defect.

## Some Well Known Merchant Vessels of All Nations

**Yorkshire.**—Bibby, British; 10,200 tons, 482 feet long, twin-screw, 15 knots. Built in 1920 and runs in first-class passenger and mail service between Liverpool and Rangoon. The only “flush-decked” Bibby.



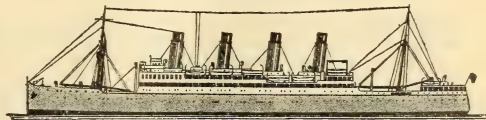
*Pink funnel, black top*



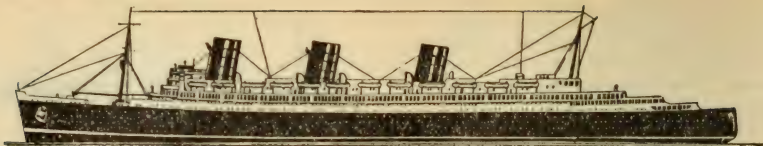
*Red funnels, black top*

**Aquitania.**—Cunard White Star, British; 45,700 tons, 901 feet long overall, quadruple-screw, 23 knots. Built in 1914 and runs in mail and passenger service between Southampton and New York and is sometimes engaged on cruising. Probably the most beautiful ship afloat, she performed sterling war-service both as hospital ship and transport; longest British built vessel afloat until *Queen Mary*; 4th funnel is dummy.

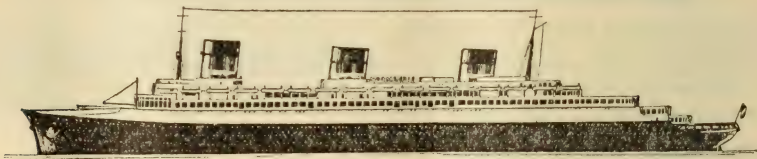
**Arundel Castle, Windsor Castle.**—Union Castle, British; 19,000 tons, 630 feet long, twin-screw, 18 knots. Built in 1922 and run in mail and passenger service between Southampton and Cape Town. *Windsor Castle* carried H.R.H. Prince George (Duke of Kent) home from South Africa in 1934.



*Red funnels, black top*



**Queen Mary.**—Cunard White Star, British; 80,800 tons (approx.), 1,018 feet long overall, quadruple-screw, 32 knots (approx.). Built in 1936 and runs in 'mail and passenger service between Southampton and New York. The largest British vessel. Launched and named by H.M. Queen Mary, she was held up for over two years on the stocks on account of economic depression; from keel to masthead measures 234 feet and to top of first funnel, 180 feet.



**Normandie.**—French Line, French; 82,800 tons, 1,027 feet long overall, quadruple-screw, turbo-electric vessel of 30 knots. Built in France in 1935 and runs in mail and passenger service between Havre and New York. She is largest vessel in world and gained "Blue Riband" for France; suffered excessively from vibration and had to be reconstructed aft; her funnels widen out at the base on either side.

Slightly altered in appearance since drawing was made.



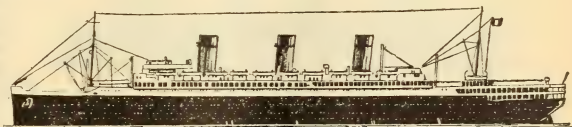
## Some Well Known Merchant Vessels of All Nations

*Red funnels, black top*



**Berengaria.**—Cunard White Star, British; 52,000 tons, 909 feet long overall, quadruple-screw, 23 knots. Built in Germany in 1912 as *Hamburg-Amerika Imperator*, and runs in mail and passenger service between Southampton and New York; her third funnel is a dummy.

**Ile de France.**—French Line, French; 43,500 tons, 764 feet long, quadruple-screw, 23 knots. Built in France in 1926 and runs in mail and passenger service between Havre and New York. Can be distinguished from *Paris* by wider spaced funnels.



**Paris.**—French Line, French; 34,600 tons, 735 feet long, quadruple-screw, 21½ knots. Built in France in 1921 and runs in mail and passenger service between Havre and New York. A very beautiful and popular ship.





## **Ships and the Sea**

*Red funnels, black top*



**Balmoral Castle, Edinburgh Castle.**—Union Castle, British; 13,400 tons, 570 feet long, twin-screw, 17 knots. Built in 1910 and run in mail and passenger service between Southampton and Cape Town. Very beautiful ships and similar in appearance to *Armada Castle* and *Kenilworth Castle*.



**Aorangi.**—Can. Australasian, British; 17,500 tons, 600 feet long overall, quadruple-screw, motor vessel of 18½ knots. Built in 1924 and runs in mail and passenger service between Sydney and Vancouver. At time of her build she was fastest British motor ship.

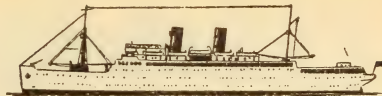


**Ville D'Alger, Ville D'Oran.**—French Line, French; 10,200 tons, 492 feet long overall, twin-screw, 23 knots. Built in France in 1935 and 1936 and run in express service between Marseilles and Algiers and are fastest ships across the Mediterranean. Especially designed for quick conversion to troopships.

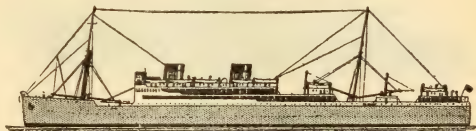
## Some Well Known Merchant Vessels of All Nations

*Red funnels, black top*

**Colombie.**—French Line, French; 13,400 tons, 480 feet long, twin-screw, 15½ knots. Built in France in 1931 and runs in cruising service between France and the West Indies and Central America. Similar ship in appearance, also white-painted, is *Cuba*.



**Warwick Castle, Winchester Castle.**—Union Castle, British; 20,400 tons, 652/632 feet long, twin-screw, motor vessels of 17 knots. Built in 1931 and run in mail and passenger service between Southampton and Cape Town. *Carnarvon Castle* is similar but has straight stem and boats "sitting" on deck.

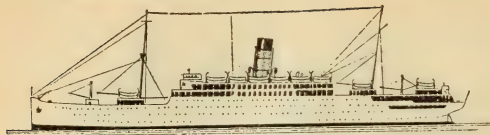


**Llangibby Castle.**—Union Castle, British; 12,000 tons, 486 feet long, twin-screw, motor vessel of 15¼ knots. Built in 1929 and runs in intermediate passenger service between London and South Africa. Very similar vessel is *Dunbar Castle*, and both are smaller editions of the large motor vessels.

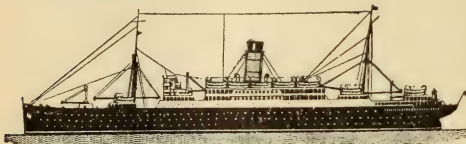


## Ships and the Sea

*Red funnels, black top*



**Carinthia & Franconia.**—Cunard White Star British; 20,300 tons, 625 feet long overall, twin-screw, 16½ knots. Built in 1925 and engaged principally in cruising.



Very similar ships to above, but having isolated bridges, are **Laconia**, **Samaria** and **Scythia**.



**Champlain.**—French Line, French; 28,100 tons, 641 feet long overall, twin-screw, 19 knots. Built in France in 1932 and runs between Havre and New York. Very similar ship in appearance, but without cowl to funnel and without second mast, is motorship *Lafayette*.



**Lady of Mann.**—Isle of Man Line, British; 3,100 tons, 364 feet long, twin-screw, 23 knots. Built in 1930 and runs in mail and passenger service between Liverpool and Douglas. Very similar ships in appearance are *Ben-My-Chree* and *Mona's Queen*, but latter has high forecastle extending to bridge front.

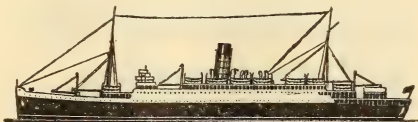
## Some Well Known Merchant Vessels of All Nations

*Red funnels, black top*

**Duntroon.**—Melbourne, British; 10,300 tons, 470 feet long overall, twin-screw motor vessel of 18 knots. Built in 1935 and runs in Australian coastal passenger service. "A" Class Cunard White Star, British; 14,000 tons, 538 feet long overall, twin-screw, 15 knots. Built between 1921 and 1925 and run in passenger service between British Isles, Canada and United States. There are two classes, *Andania*, *Antonia* and *Ausonia*, which are as illustrated, and *Alaunia*, *Ascania* and *Aurania*, which have no isolated bridge. They are to be increased in speed shortly.

**Lancastria.**—Cunard White Star, British; 16,200 tons, 578 feet long overall, twin-screw, 16½ knots. Built in 1922 and now engaged largely on cruising.

**Gloucester Castle.**—Union Castle, British; 8,000 tons, 453 feet long, twin-screw, 12 knots. Built in 1911 and engaged in the intermediate passenger service between London and South and East Africa. Similar ships are *Garth Castle*, *Grantully Castle*, *Dunluce Castle* and *Durham Castle*.



## Ships and the Sea

*Red funnels, black top*



**St. Andrew, St. David.**—G.W.R. British; 2,700 tons, 327 feet long, twin-screw, 21 knots. Built in 1932 and run in mail and passenger service between Fishguard and Rosslare. Similar ships are *St. Helier*, *St. Julien* engaged on the Weymouth service and *St. Patrick*.

**Gibel Dersa.**—Bland, British; 1,200 tons, 300 feet long, twin-screw, 19 knots. Built in 1897 and runs in mail and passenger service between Gibraltar and African coast. A very well-known vessel and formerly *Duchess of Devonshire*.

**Port Chalmers, Port Wyndham.**—Port Line, British; 8,500 tons, 492 feet long overall, twin-screw, motor vessels of  $16\frac{1}{2}$  knots. Built in 1933 and 1935 and run in cargo service between London and Australasia, having immense refrigerated space.

**Cadillac, Saranac.**—Anglo-American Oil, British; 12,100 tons, 530 feet long, 11 knots. Built in 1917/1918 and having a deadweight capacity of 17,300 tons for carriage of petroleum; new midships sections were fitted in 1931.

## Some Well Known Merchant Vessels of All Nations

*Red funnels with markings and black tops*

**Dorset, Durham.**—Federal, British; 10,900 tons, 513 feet long overall, twin-screw, motor vessels of 17 knots. Built in 1934 and have nearly 500,000 cubic feet of refrigerated space for the carriage of meat from Australia and New Zealand. Carry no passengers but have accommodation for a considerable number of cadets and are splendid examples of the modern cargo liner.

**Northumberland.**—Federal, British; 11,600 tons, 531 feet long, twin-screw, 15 knots. Built in 1915 and runs in refrigerated meat trade between British and Australasian ports. The largest ship to go up Manchester Ship Canal and not unlike *Westmoreland* and *Cambridge*. Now has only two masts.

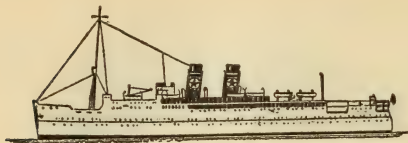
**Almeda Star, Andalucia Star.**—Blue Star, British; 14,900 tons, 579 feet long overall, twin-screw, 16 knots. Built in 1927, and lengthened in 1935, run in passenger service between London and South America and have large refrigerated capacity. Similar ship is *Avila Star*. *Andalucia Star* has no mainmast.





## Ships and the Sea

*Red funnels with markings and black tops*



**Arandora Star.**—Blue Star, British; 15,300 tons, 535 feet long overall, twin-screw, 16 knots. Built in 1927, altered in 1934 and again in 1935, when she had mainmast removed. Engaged purely on cruising and known as “The Chocolate Box.”

Slightly altered aft since drawing was made.



**Avelona Star.**—Blue Star, British; 13,400 tons, 510 feet long, twin-screw, 16 knots. Built in 1927 and altered very considerably several times recently, originally having two funnels. Engaged in frozen meat trade between British Isles and South America and has 647,000 cubic feet of refrigerated space, the largest in any ship.



**Australia Star, Dunedin Star, Empire Star, Imperial Star, New Zealand Star, Sydney Star.**—Blue Star, British; 11,100 tons, 517 feet long, twin-screw, motor vessels. Engaged in frozen meat trade between Australia and British Isles; all built in 1935 and 1936.



## Some Well Known Merchant Vessels of All Nations

*Red funnels, coloured bands, black or blue tops*

**Manchester Regiment.**—Manchester Liners, British; 6,000 tons, 450 feet long, 15 knots. Built in 1922 and engaged in cargo service between Manchester, Canadian and United States ports. Has "goal-post" masts, accommodation for a few passengers and special facilities for 512 head of cattle.



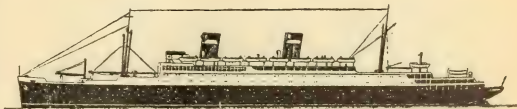
**British Advocate.**—British Tankers, British; 7,000 tons, 440 feet long, 10 knots. Built in 1922 and runs in petroleum trade between Persian Gulf and British ports. Representative of a very large class of ships owned by this company.



**Patria, Providence.**—Fabre Line, French; 11,900 tons, 511 feet long, twin-screw, 15 knots. Built in France 1913 and 1915 and run in mail and passenger service between Marseilles and Beirut. Sometimes go cruising and are then white-painted.



**Manhattan, Washington.**—United States Lines, American; 24,300 tons, 705 feet long overall, twin-screw, 20 knots. Built in United States in 1932 and 1933 and run in mail and passenger service between New York and Europe.

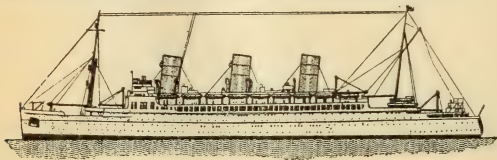
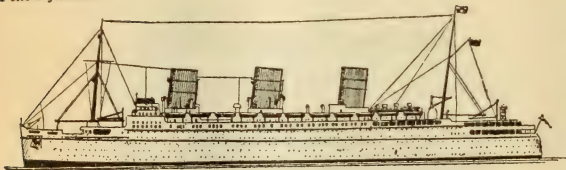


## Ships and the Sea

*Red funnels, white band, blue top*



*Yellow funnels*



**President Harding, President Roosevelt.**—United States Lines, American; 13,900 tons, 535 feet long overall, twin-screw, 19 knots. Built in United States and run in passenger service between New York and Europe. Have “goal-post” masts.

**Lady Drake, Lady Hawkins, Lady Nelson, Lady Rodney, Lady Somers.**—Can. National, British; 8,000 tons, 420 feet long, twin-screw, 14 knots. Built in 1928 and 1929 and run in passenger trade between Canadian and West Indian ports.

**Empress of Britain.**—Can. Pacific, British; 42,300 tons, 750 feet long overall, quadruple-screw, 24 knots. Built in 1931 and runs in mail and passenger service between Southampton and Quebec except in winter, when she is engaged on world cruising.

**Empress of Japan.**—Can. Pacific, British; 26,000 tons, 666 feet long overall, twin-screw, 24 knots. Built in 1930 and runs on mail and passenger service between Vancouver and Hong Kong, holding “Blue Riband” of the Pacific.

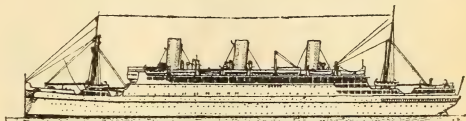
## Some Well Known Merchant Vessels of All Nations

*Yellow funnel*

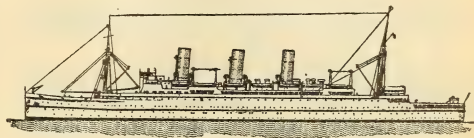
**Strathaird, Strathnaver.**—P. & O., British; 22,500 tons, 666 feet long overall, twin-screw, turbo-electric vessels of 23 knots. Built in 1931/32 and run in mail and passenger service between Tilbury and Brisbane. Very popular cruising ships known as "Beautiful white sisters": only middle funnel is in actual use as smoke stack.



**Empress of Australia.**—Can. Pacific, British; 22,000 tons, 615 feet long overall, twin-screw, 18 knots. Built in Germany in 1914 and is principally engaged on cruising. She has been re-engined in recent years and was originally known as *Tirpitz* and is only Canadian Pacific liner with an elliptical stern.

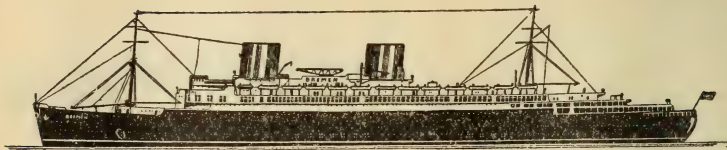


**Empress of Canada.**—Canadian Pacific, British; 21,500 tons, 627 feet long, twin-screw, 20 knots. Built in 1922 and re-engined later. Runs in passenger service between Vancouver and Hong Kong and can be distinguished by her tall latticework davits.



## Ships and the Sea

*Yellow funnels*



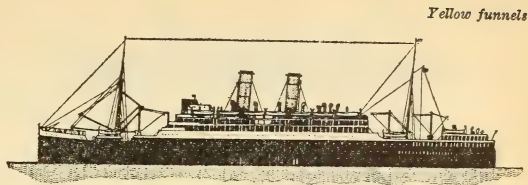
**Bremen, Europa.**—North German Lloyd. German; 51,000 and 49,800 tons, 937 feet long overall, quadruple-screw, 26 knots. Built in Germany, 1929 and 1930 and run in mail and passenger service between Bremen and New York. *Bremen* secured "Blue Riband" from Cunard *Mauretania* and both ships held it for Germany for some years. Funnels were originally 15 feet shorter and *Bremen* carries aeroplane catapult. The largest German ships.



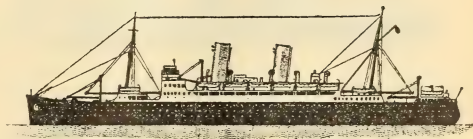
**Columbus.**—North German Lloyd. German; 32,600 tons, 750 feet long, twin-screw, 22 knots. Built in Germany in 1922 and runs in mail and passenger service between Bremen and New York. Funnels were lowered to bring her more into line with *Bremen*.

## Some Well Known Merchant Vessels of All Nations

**Orama, Orford, Otranto.**—Orient, British; 20,000 tons, 660 feet long overall, twin-screw, 20 knots. Built in 1924, 1928 and 1925 and run in mail and passenger service between Tilbury and Australia except when engaged in cruising. *Orontes* is almost identical but has a raking stem, and *Oronsay* has an additional white strake along bridge deck.



**Duchess of Atholl, Duchess of Bedford, Duchess of Richmond, Duchess of York.**—Can. Pacific, British; 20,100 tons, 600 feet long overall, twin-screw, 18 knots. Built in 1928/29 and run in passenger service between Liverpool and Quebec. Most popular ships, and sometimes employed on cruises. "Mont" class, *Montcalm*, *Montclare* and *Montrose*, are similar in appearance but lighter looking and have much thinner funnels and lattice-work boat-davits.





**Albertville.**—Compagnie Maritime Belge, Belgian; 10,800 tons, 494 feet long, twin-screw,  $16\frac{1}{2}$  knots. Built in France in 1928 and runs in passenger service between Antwerp and Belgian Congo.

**Leopoldville.**—Compagnie Maritime Belge, Belgian; 11,300 tons, 479 feet long, twin-screw,  $16\frac{1}{2}$  knots. Built in Belgium in 1929, is the largest Belgian ship and runs in passenger and mail service between Antwerp and Belgian Congo.

**Rangitane, Rangitata, Rangitiki.**—N.Z.S. Co., British; 16,700 tons, 550 feet long overall, twin-screw motor vessels of 15 knots. Built in 1929 and run in passenger service between London and New Zealand (via Panama) and have huge refrigerating capacity. Recognised by large winch-houses and white-painted derricks.

**Alcantara, Asturias.**—Royal Mail, British; 22,200 tons, 658 feet long overall, twin-screw, 19 knots. Built in 1926 as motor vessels and converted to steam in 1934/35, when funnels were raised 15 feet. Run in mail and passenger service between Southampton and South America.



## Some Well Known Merchant Vessels of All Nations

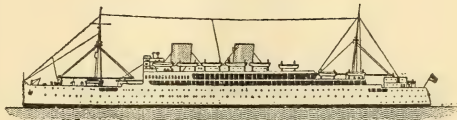
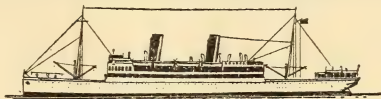
*Yellow funnels*

**Conte Rosso** (The Red Count),  
**Conte Verde** (The Green Count).—  
Lloyd Triestino, Italian; 17,900/  
18,800 tons. 588 feet long overall,  
twin-screw, 19½ knots. Built in  
England in 1922 and 1923 and  
run in fast passenger service  
between Trieste and Far East.

**Helouan, Vienna**.—Lloyd Triestino,  
Italian; 7,200 tons, 443 feet long,  
twin-screw, 17 knots. Built in  
Austria in 1912 and normally  
engaged in passenger service to  
Far East. Similar vessels in  
appearance are *Esperia* and *Tevere*.

**Victoria**.—Lloyd Triestino, Italian;  
13,100 tons, 541 feet long overall,  
quadruple-screw vessel of 22 knots.  
Built in Italy in 1931 and runs  
in passenger service between Trieste  
and Bombay. At time of build was  
fastest motor ship.

**Reina Del Pacifico**.—Pacific Steam,  
British; 17,700 tons, 580 feet long  
overall, quadruple screw, motor  
vessel of 19 knots. Built in 1931  
and runs in mail and passenger  
service between Liverpool and  
West Coast of South America.  
Fastest ship to West Coast.





## Ships and the Sea

*Yellow funnels*



**Highland Brigade, Highland Chief-tain, Highland Monarch, Highland Patriot, Highland Princess.**—Royal Mail, British; 14,100 tons, 535 feet long overall, twin-screw, motor vessels of 16 knots and run in intermediate passenger service between London and South America. Were formerly in Nelson Line Service before latter was merged into Royal Mail; after funnel covers dome of saloon.

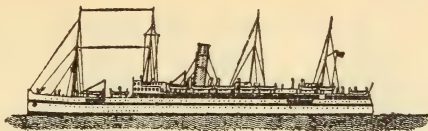
**Amerika, Europa.**—East Asiatic Co., Danish; 10,100 tons, 465 feet long, motor vessels of 14 knots. Built in Denmark in 1930 and 1931 and engaged in the service between Denmark and Pacific ports. *Canada* is similar ship, but has cruiser stern and these three are the only ships in the company's fleet to have funnels.

**Rotorua.**—N.Z.S. Co., British; 10,900 tons, 526 feet long, twin-screw, 14 knots. Built in 1911 and runs in tourist passenger service between London and New Zealand. A very popular vessel, probably on account of her five masts, the third of which is now cut down.

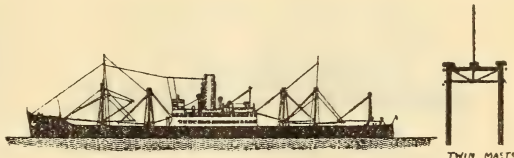
## Some Well Known Merchant Vessels of All Nations

[ *Yellow funnels* ]

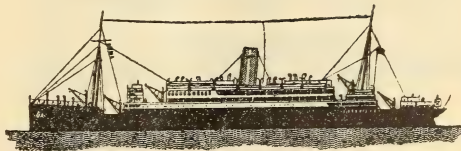
**Lancashire.**—Bibby trooper, British; 9,500 tons, 482 feet long, twin-screw, 15 knots. Built in 1931 and later converted into Government trooper having capacity for 1,500 troops.



**Beaverbrae, Beaverburn, Beaverdale, Beaverford, Beaverhill.**—Can. Pacific, British; 10,000 tons, 503 feet long, twin-screw, 15½ knots. Built in 1928 and run in cargo service between London and Canada. "Goal-post" masts and derrick posts and represent finest type of cargo liner with all crew accommodation amidships.

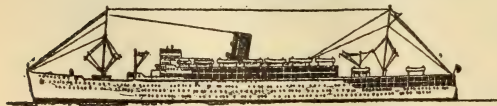
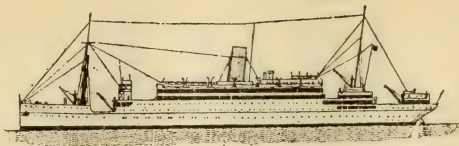


**Almanzora.**—Royal Mail, British; 15,600 tons, 589 feet long overall, triple-screw, 16 knots. Built in 1914 and runs in the mail and passenger service between Southampton and South America. A very beautiful vessel and very similar to *Arlanza*.



## Ships and the Sea

*Yellow funnels*



**Atlantis.**—Royal Mail, British; 15,100 tons, 589 feet long overall, triple-screw, 16 knots. Built in 1913 and is engaged purely on cruising; she has an open-air swimming pool between isolated bridge and front of passenger superstructure and was formerly the *Andes*.

**Orbita, Orduña.**—Pacific Steam, British; 15,500 tons, 550 feet long, triple-screws, 15 knots. Built in 1914/15 and run in mail and passenger service between Liverpool and West coast of South America.

**Strathmore.**—P. & O., British; 23,400 tons, 665 feet long overall, twin-screw, 21 knots. Built in 1935 and runs in mail and passenger service between Tilbury and Bombay and is also a popular cruiser.

**Abosso.**—Elder Dempster, British; 11,300 tons, 457 feet long, twin-screw, motor vessel of 15 knots. Built in 1935 and runs in mail and passenger service between Liverpool and West coast of Africa.

Hull is now black.

## Some Well Known Merchant Vessels of All Nations

*Yellow funnels*

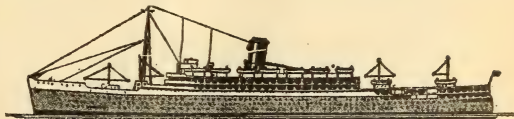
**Gneisnau, Potsdam, Scharnhorst.**—North German Lloyd, German; 18,200 tons, 626 feet long overall, twin-screw, 21 knots; last two, turbo-electric. Built in Germany in 1935 and run in passenger service between Bremen and Far East and are some of fastest ships in the service.



**Stella Polaris.**—Bergen S.S. Co., Norwegian; 5,000 tons, 389 feet long, twin-screw, 16 knots. Built in Sweden in 1927 and is the only motor vessel exclusively designed for cruising upon which she is entirely employed.

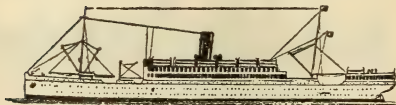
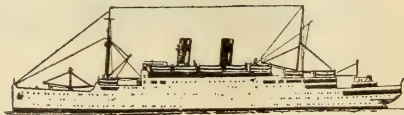


**Orion.**—Orient, British; 23,400 tons, 665 feet long overall, twin-screw, 21 knots. Built in 1935 and runs in mail and passenger service between Tilbury and Australia and is also employed on cruising. She was launched by wireless waves from Australia by H.R.H. Duke of Gloucester. A sister ship, **Orcades**, is in course of construction.



## Ships and the Sea

*Yellow funnels, or yellow funnels with markings*



**Beljeanne, Belpareil.**—Smith, Norwegian; 7,200 tons, 414 feet long, twin-screw, motor vessels of 11 knots. Built in England in 1926 and designed especially for the transport of heavy machinery and railway trains.

**Kungsholm.**—Swedish American, Swedish; 20,100 tons; 595 feet long, twin-screw, motor vessel of 18 knots. Built in Germany in 1928 and runs in mail and passenger service between Sweden and New York and sometimes engaged on cruising.

**Gripsholm.**—Swedish American, Swedish; 17,900 tons, 574 feet long overall, twin-screw, motor vessel of 17 knots. Built in 1925 in England and runs in passenger service between Sweden and New York, and engaged sometimes in cruising.

**Drottningholm.**—Swedish American, Swedish; 11,100 tons, 540 feet long overall, triple-screw, 17 knots. British built in 1906 and runs in passenger service between Sweden and New York and also on cruising. An interesting vessel, as she was originally the Allan liner *Virginian* one of the first turbine ships on the North Atlantic.

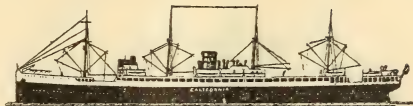
## Some Well Known Merchant Vessels of All Nations

*Yellow funnels with bands and marking*

**Batory, Pilsudski.**—Gdynia American, Polish; 14,400 tons, 514 feet long, twin-screw, motor vessels of 20 knots. Built in Italy in 1935 and 1936 and run in mail and passenger service between Gdynia and New York.



**California.**—Libera Triestina, Italian; 13,000 tons, 523 feet long, twin-screw, 14 knots. Built in Scotland in 1920 and normally in passenger service between Italy and Pacific coast ports but engaged as hospital ship at present. Built as the Cunard *Albania*, the first after the war.



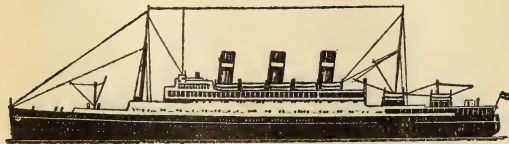
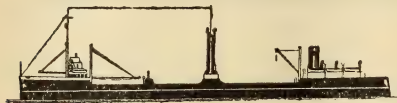
**Stavangerfjord.**—Norwegian American, Norwegian; 13,200 tons, 550 feet long overall, twin-screw, 17½ knots. Built in England in 1918 and employed in passenger service between Oslo and New York.





## Ships and the Sea

*Yellow funnels with coloured bands*



**Bergensfjord.**—Norwegian American, Norwegian; 11,000 tons, 530 feet long overall, twin-screw,  $17\frac{1}{2}$  knots. Built in England in 1913 and runs in passenger service between Norway and New York.

**Sir James Clark Ross, Vestvold.**—Rasmussen, Norwegian; 14,400 tons, 538 feet long, twin-screw, motor vessels of 11 knots. Built in England in 1931 and employed in whaling trade.

**Foucauld.** — Chargeurs Réunis, French; 11,000 tons, 483 feet long, twin-screw, 14 knots. Built in France in 1922 and runs in mail and passenger service between French ports and ports in West Africa. Originally had much less passenger superstructure.

**Statendam.** — Holland - America, Dutch; 28,300 tons, 674 feet long, twin-screw, 19 knots. British built in 1929 and runs in mail and passenger service between Netherlands and New York. Largest Dutch merchant ship and known as "Queen of the Spotless Fleet."



## Some Well Known Merchant Vessels of All Nations

*Yellow funnels, coloured bands*

**Rotterdam.** — Holland - America, Dutch; 24,100 tons, 651 feet long, twin-screw, 17 knots. British built in 1908 and runs in passenger service between Netherlands and New York and sometimes cruising.



**Veendam, Volendam,** — Holland-America; 15,500 tons, 550 feet long, twin-screw, 15 knots. British built in 1923 and run in passenger service between Netherlands and New York.

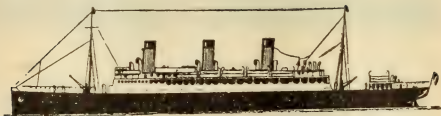


**Colonial.**—Comp. Colonial, Portuguese; 8,300 tons, 450 feet long, twin-screw, 12½ knots. Built in Germany in 1908 and engaged in passenger service between Portugal and Portuguese East Africa. Originally *Assyria* of the Anchor Line.



## **Ships and the Sea**

*Yellow funnels, black top*



**Massilia.** — Cie. Sud - Atlantique, French; 15,400 tons, 577 feet long, quadruple-screw, 20 knots. Built in France in 1920 and runs between French ports and South America. Very similar ship in appearance is *Lutetia*.



**Princess Kathleen, Princess Marguerite.** — Can. Pacific Railway, British; 5,900 tons, 350 feet long, twin-screw, 21 knots. Built in 1925 and typical of the passenger ship on the Pacific coast of Canada.

## Some Well Known Merchant Vessels of All Nations

*Yellow funnels, black top*

**Ciudad de Buenos Aires.**—Compania Argentina, Argentine; 4,000 tons, 351 feet long, twin-screw, 160 knots. Runs in passenger service on River Plate and was built in England in 1914. A sister ship is owned by Uruguay and named *Ciudad de Montevideo*.



**Johan de Witt.**—Nederland, Dutch; 10,400 tons, 506 feet long, twin-screw, 16 knots. Built in Netherlands in 1920 and runs in passenger service between Netherlands and Netherlands East Indies. Lengthened in 1933. Similar ship, but with elliptical stern and without Maier bow, *Jan Pieterszoon Coen*.



**Nieuw Holland, Nieuw Zeeland.**—Royal Packet, Dutch; 11,100 tons, 541 feet long, twin-screw, 15 knots. Built in Netherlands in 1928 and run in passenger and mail service between Netherlands East Indies and Australia. Re-engined 1935/1936.



## Ships and the Sea

*Yellow funnels, black top*



**Duke of Argyll, Duke of Lancaster, Duke of Rothesay.**—L.M.S. Railway, British; 3,600 tons, 350 feet long, twin-screw, 21 knots. Built in 1928 and conduct the mail and passenger service between Heysham and Belfast. Similar ship but with more enclosed superstructure and prominent cranes, *Duke of York*. **Biarritz, Maid of Orleans.**—Southern Railway, British; 2,400 tons, 341 feet long, twin-screw, 24 knots. Built in 1915 and 1918 and run in mail and passenger service between Dover and Calais.

**Amsterdam, Prague, Vienna.**—L. & N.E. Railway, British; 4,200 tons, 366 feet long overall, twin-screw, 21 knots. Built in 1929 and 1930 and run in mail and passenger service between Harwich and the Hook.

**Dinard, St. Briac.**—Southern Railway, British; 2,300 tons, 316 feet long, twin-screw, 18 knots. Built in 1924 and run in mail and passenger service between Southampton and Havre and are engaged on cruises in the summer. Very similar ships are *Hantonia*, *Lorina* and *Normannia*.

## Some Well Known Merchant Vessels of All Nations

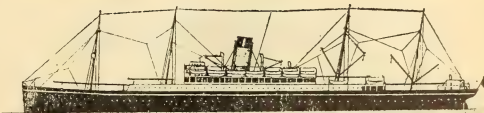
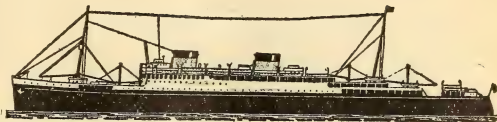
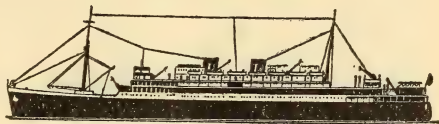
*Yellow funnels, black top*

**Prince Charles, Prince Leopold, Prinses Astrid, Prinses Josephine Charlotte.**—Belgian State Railways, Belgian; 2,900 tons, 347 feet long, twin-screw, 23 knots. All built in Belgium 1930 /31 and run in mail and passenger service between Ostend and Dover.

**Johan van Oldenbarnevelt, Marnix van sint Aldegonde.**—Nederland, Dutch; 19,000 tons, 600 feet long overall, twin-screw, motor vessels of 19½ knots. Built in Netherlands in 1930 and run in mail and passenger service between Netherlands and Netherlands East Indies.

**Georgic.**—Cunard White Star, British; 27,800 tons, 712 feet long overall, twin-screw, motor vessel, 18 knots. Built in 1932 and runs in the passenger service between London and New York. Largest ship to sail from London and very much like **Britannic**, but latter does not have rounded bridge-front.

**Ceramic.**—Shaw, Savill, British; 18,500 tons, 675 feet long overall, triple-screw, 15 knots. Built in 1913 and runs in passenger and cargo service between Liverpool and New Zealand.



## Ships and the Sea

*Yellow funnels, black top*



**Manunda.**—Adelaide, British; 9,100 tons, 445 feet long overall, twin-screw, motor vessel of  $17\frac{1}{2}$  knots. Built in 1929 and runs in Australian coastal passenger trade.



**Mataroa, Tamaroa.**—Shaw, Savill, British; 12,400 tons, 500 feet long, twin-screw, 15 knots. Built in 1922 and run in passenger service between London and New Zealand (via Panama). Originally in Aberdeen Line service as *Diogenes* and *Sophocles*.



**Op Ten Noort, Plancius.**—Royal Packet, Dutch; 6,100 tons, 425 feet long, twin-screw, 15 knots. Built in Netherlands in 1927 and 1923 and run in passenger service in Netherlands East Indies. Similar ship with shorter funnel is *Ophir*.



**Houtman.**—Royal Packet, Dutch; 5,000 tons, 392 feet long,  $12\frac{1}{2}$  knots. Built in Netherlands in 1913 and runs in service between Netherlands East Indies and South Africa. Similar to a considerable number of ships of this company.

## Some Well Known Merchant Vessels of All Nations

*Yellow funnels, black top*

**Akaroa.**—Shaw, Savill, British; 15,000 tons, 570 feet long overall, triple-screw, 15 knots. Built in 1914 and reconstructed in 1932 and runs in passenger service between London and New Zealand (via Panama). Formerly *Euripides* of Aberdeen Line.



**Hampton Ferry, Shepperton Ferry, Twickenham Ferry.**—Southern Railway, British; 2,900 tons, 360 feet in length overall, twin-screw, 16½ knots. Built in 1934 and run in ferry service between Dover and Dunkirk. Funnels are abreast, one on either beam, and there is accommodation for forty wagons and twenty-five cars.



**Canterbury.**—Southern Railway, British; 2,900 tons, 330 feet long, twin-screw, 21 knots. Built in 1929 and runs in cross channel service between Dover and Calais or Folkestone and Boulogne. Very similar ships are *Isle of Thanet* and *Maid of Kent*, but latter have boats sitting on the deck. Other ships not dissimilar, but smaller, are *Worthing*, *Brighton* and *Brittany*.





## Ships and the Sea

*Yellow funnels, black top*



**Inchanga, Incomati, Isipingo.**—Weir, British; 7,400 tons, 435 feet long overall, twin-screw, motor vessels of 15 knots. Built in 1934 and run in passenger service between South Africa, India and Burma.



**Ariguani, Carare, Cavina, Bayano, Camito.**—Elder & Fyffes, British; 6,700 tons, 425 feet long, twin-screw, 14 knots. Built in 1926 except last two (1911/15), and run in passenger and fruit trade between Avonmouth and West Indies and Central America. Typical of most Fyffes steamers.

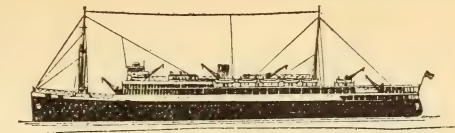


**Waipawa, Wairangi, Waiwera.**—Shaw, Savill, British; 10,800 tons, 536 feet long overall, twin-screw, motor-vessels of 17 knots. Built in 1934 and run in cargo service with a few passengers between London and New Zealand. Have over half million cubic feet of refrigerated space for frozen meat cargoes.

## Some Well Known Merchant Vessels of All Nations

*Yellow funnels, black top*

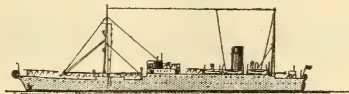
**Christiaan Huygens.**—Nederland, Dutch; 15,700 tons, 551 feet long, twin-screw, motor vessel of 17 knots. Built in Netherlands in 1927 and runs in mail and passenger service between Netherlands and Netherlands East Indies.



**Prince Baudouin.**—Belgian State Railways; 3,100 tons, 357 feet long, twin-screw, motor vessel. Built in Belgium in 1934 and runs in mail and passenger service between Ostend and Dover, being first motor vessel in that service and the fastest motor vessel afloat. Sister ship, **Prince Albert**, is in course of construction.



**Faraday.**—Siemens, British; 4,500 tons, 394 feet long, twin-screw. Built in 1923, and is a cable-laying and repairing ship.



**Byron.**—National Nav. Co., Greek; 9,300 tons, 470 feet long, twin-screw, 15½ knots. Built in England in 1914 and runs in Greek trans-Atlantic service, being largest vessel in Greek merchant fleet.



## **Ships and the Sea**

*Yellow funnel, bands and markings, black top.*



**President Grant, President Jackson, President Jefferson, President McKinley, President Madison.**—American Mail, American; 14,100 tons, 535 feet long overall, twin-screw, 18 knots. Built in United States in 1921 and run in passenger service between Pacific Coast and Far East. Have “goal-post” masts.



**Umtali, Umtata.**—Bullard King, British; 8,400 tons, 468 feet long, twin-screw, 15 knots. Built in 1936 and run in passenger service between London and Natal.



**Antigua, Chiriqui, Peten, Quirigua, Talamanca, Veragua.**—United Fruit, American; 7,000 tons, 416 feet long, twin-screw, turbo-electric vessels of 18 knots. Built in 1918 and run in passenger and fruit trade between New Orleans and West Indian and Central American ports. Belong to the “Great White Fleet.”

## Some Well Known Merchant Vessels of All Nations

*Yellow funnels, bands and black top*

**City of Tokio.**—Ellerman, British; 7,000 tons, 422 feet long, 12 knots. Built in 1921, engaged in company's world-wide cargo trade and typical of many vessels in fleet.



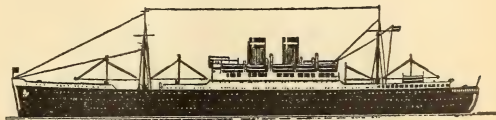
**Reliance.** — Hamburg - Amerika, German; 19,800 tons, 590 feet long, triple-screw, 17 knots. Built in Germany in 1920 and engaged in cruising. Her sister, *Resolute*, was sold to Italy as a transport in 1935.



**Deutschland, Hansa.**—Hamburg-Amerika, German; 21,100 tons, 602 feet long, twin-screw, 19½ knots. Built in Germany in 1923 and run in service between Hamburg and New York. Lengthened recently and speed increased by over three knots. *Hansa* was originally named *Albert Ballin*.



**Hamburg, New York.**—Hamburg-Amerika, German; 22,700 tons, 645 feet long overall, twin-screw, 19½ knots. Built in Germany in 1926 and 1927 and run in service between Hamburg and New York. Altered in same way as *Deutschland* class and are practically two-masted editions of that class.



## Ships and the Sea

*Yellow funnels, coloured bands and black top*



**Milwaukee, St. Louis.**—Hamburg-Amerika, German; 16,700 tons, 547 feet long, twin-screw, motor vessels of 16 knots. Built in Germany in 1929 and 1928 and engaged largely in cruising, *St. Louis* being white-painted.

**Oceana.**—Hamburg-Amerika, German; 8,800 tons, 440 feet long, twin-screw, 12 knots. Built in Germany in 1912 and is engaged on workers' cruises.

**Mecklenburg, Oranje Nassau, Prinses Juliana.**—Zeeland S.S. Co., Dutch; 2,900 tons, 364 feet long overall, twin-screw, 22½ knots. Built in Netherlands in 1922/1920 except *Oranje Nassau* which was British built in 1909, and run in mail and passenger service between Flushing and Harwich.

**Ukena, Watussi.**—German East African, German; 9,600 tons, 464 feet long, 16 knots. Built in Germany in 1928 and run in passenger service between Germany and South and East Africa. Lengthened by 18 feet recently and speed raised.

## Some Well Known Merchant Vessels of All Nations

*Yellow funnels, blue top*

**Lurline, Mariposa, Monterey.**—Matson, American; 18,000 tons, 632 feet long overall, twin-screw, 22 knots. Built in United States in 1932 and run in mail and passenger service between Pacific coast ports and Australasia, and being heavily subsidised they are gravely hazarding the British services.



**Malolo.**—Matson, American; 17,300 tons, 554 feet long, twin-screw, 22 knots. Built in United States in 1927 and runs in passenger service between Pacific coast ports and Honolulu. May be white-painted or very dark brown.



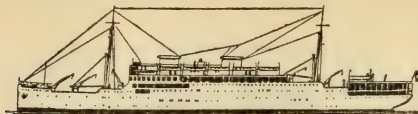
**Maui.**—Matson, American; 9,800 tons, 484 feet long, twin-screw, 16 knots. Built in United States in 1917 and runs in passenger service between Pacific coast ports and Honolulu. Interesting as being one of the few passenger liners with engines aft and similar ships in appearance are *Matsonia*, *Manulani* and *Manukai*.



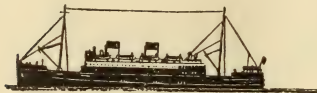


## Ships and the Sea

*White funnels and white funnels with black top*



**Aramis.** — Messageries Maritimes, French; 17,500 tons, 544 feet long, twin-screw, motor vessel of 15½ knots. Built in France in 1932 and runs in the mail and passenger service between Marseilles and the Far East. Painted white all over and is the flagship of the Messageries fleet.



**Innisfallen.**—City of Cork, British; 3,000 tons, 321 feet long, twin-screw, motor vessel of 18 knots. Built in 1930 and runs in passenger service between Cork and Liverpool.



**Côte D'Argent, Côte D'Azur.**—Soc. Gérance, French; 3,000 tons, 326 feet long, twin-screw, 21 knots. Built in France in 1930 and run in mail and passenger service between Calais and Dover.



**Francesco Crispi, Giuseppe Mazzini.** —Tirrenia, Italian; 7,500 tons, 447 feet long, twin-screw, 14½ knots. Built in Italy in 1926 and engaged in passenger service between Italy and East Africa.



## Some Well Known Merchant Vessels of All Nations

*White funnels, black top*

**Cittá di Genova, Cittá di Napoli, Cittá di Palermo, Cittá di Tunisi.**—Tirrenia, Italian; 5,400 tons, 412 feet long, twin-screw, motor vessels of 17 knots. Built in Italy in 1929 and 1930 and engaged in service between Italian ports and ports across the Mediterranean.



**El Coston.**—Southern Pacific, American; 7,300 tons, 427 feet long, 15½ knots. Built in United States in 1924 and runs in passenger service between New York and Gulf ports. Formerly was the *Bienville* but was renamed after being almost destroyed by fire.

*White funnels, black top and markings*

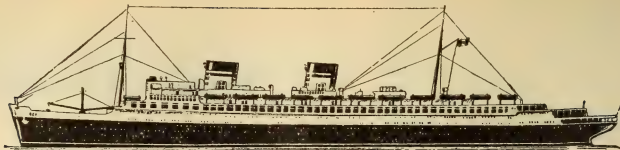


**Britannia, Suecia.**—Swedish Lloyd, Swedish; 4,200 tons, 374 feet long overall, 17 knots. British built in 1929 and run in passenger service between Sweden and London. Strengthened for navigation in ice.

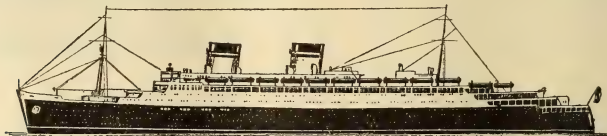


## Ships and the Sea

*White funnels, green band and red top*



**Rex.**—Italy, Italian; 51,100 tons, 880 feet long overall, quadruple-screw, 28 knots. Built in Italy in 1932 and runs in mail and passenger service between Italy and New York. Gained “Blue Riband” from German liners and held it until advent of *Normandie* in 1935.



**Conte di Savoia** (Count of Savoy).—Italy, Italian; 48,500 tons, 815 feet long overall, quadruple-screw, 28 knots. Built in Italy in 1932 and runs in mail and passenger service between Italy and New York. Largest ship fitted with Gyro-stabiliser to diminish rolling.

## Some Well Known Merchant Vessels of All Nations

**Conte Grande** (The Great Count).—Italy, Italian; 25,700 tons, 652 feet long overall, twin-screw, 20 knots. Built in Italy in 1928 and normally engaged in mail and passenger service between Italy and South America. Very similar ship is the British built, *Conte Biancamano* (The White Count).

*White funnels, green band, red top*



**Duilio, Giulio Cesare.**—Italy, Italian; 23,600 /21,900 tons, 636 feet long overall, quadruple-screw, 21 knots. Built in Italy and in England in 1923 and 1921 and engaged in passenger service between Italy and South Africa.

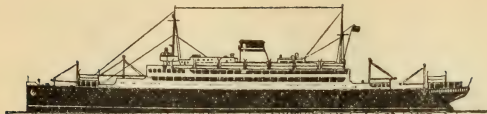


**Augustus.**—Italy, Italian; 30,400 tons, 710 feet long overall, quadruple-screw, motor vessel of 19 knots. Built in Italy in 1927 and runs in mail and passenger service between Italy and South America. World's largest motor vessel and very similar in appearance to the steamer *Roma*.

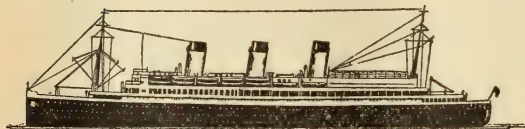


## Ships and the Sea

*White funnels, red top*



**Saturnia, Vulcania.**—Italia, Italian; 23,900 tons, 631 feet long overall, twin-screw, motor vessels of 18/21 knots. Built in Italy in 1927 and 1928 and run in service between Italy and United States. Rather similar ships, but with cruiser sterns and raking stems, *Oceania* and *Neptunia*.



**Cap Arcona.**—Hamburg - South America, German; 27,600 tons, 643 feet long, twin-screw, 20 knots. Built in Germany in 1927 and runs in mail and passenger service between Hamburg and South America. Largest and fastest ship in the service and has a full-sized tennis court abaft the funnels.



**Monte Olivia, Monte Sarmiento, Monte Pascoal, Monte Rosa.**—Hamburg-South America, German; 13,800 tons, twin-screw, motor vessels of 14½ knots. Built in Germany in 1924 (first pair) and 1930 (second pair) and engaged in passenger service between Hamburg and South America or else on cruising.

## Some Well Known Merchant Vessels of All Nations

**Jutlandia**—East Asiatic Co., Danish, 8,500 tons, 461 feet long overall, twin-screw motor vessel of 15 knots. Engaged in passenger and cargo service between Denmark and Pacific Coast or Far East.



**Afrika, Java, Malaya**.—East Asiatic Co., Danish; 8,600 tons, 446 feet long, twin-screw, motor-vessels of 12 knots. Carry a few passengers and are engaged in service between Denmark and the Far East. Similar ships in appearance are *Danmark* and *India*.



**Brimanger, Heranger, Hindanger, Villanger**.—Westfal-Larsen, Norwegian; 4,900 tons, 398 feet long, twin-screw, motor vessels of 13 knots. Built in England, except *Heranger*, which is Danish built, and run in service between Norway and North Pacific ports.



## CHAPTER XL

# Some Well Known Shipping Companies

(Tonnage to nearest 100 tons)

The number in brackets following the Company's name refers to number of House Flag and Funnel illustrated in colour.

**ABERDEEN & COMMONWEALTH LINE, THE** (BRITISH) [207]  
London, E.C.3.

PASSENGER SHIPS (One class only).

<b>Esperance Bay.</b>	'22.	14,200 tons.	<b>Jervis Bay.</b>	'22.	14,200 tons.
<b>Hobsons Bay.</b>	'22.	14,200 tons.	<b>Largs Bay.</b>	'22.	14,200 tons.
<b>Moreton Bay.</b>	'22.	14,200 tons.			

DISTINGUISHING FEATURES:—*Hulls* : Green with white band. *Boot-topping* : Red.  
*Ventilators* : Buff. *Inside of Cowls* : Red. *Names* : Australian "Bays."

As the Australian Commonwealth Line the vessels had black hulls and the inside of cowls was blue. They formerly had heavy lattice-work boat-handling gear.

SERVICES:—*Mail, Passenger and Cargo.* London to Brisbane via Port Said, Aden, Colombo, Fremantle, Adelaide, Melbourne and Sydney.

**ADELAIDE STEAMSHIP COMPANY LTD., THE** (BRITISH) [246]  
Adelaide, South Australia.

MOTOR SHIPS.

<b>Katoora.</b>	'27.	300 tons.	<b>Minnipa.</b>	'27.	2,000 tons.
(Engines aft.)			<b>Momba.</b>	'26.	3,000 tons.
<b>Manoora.</b>	'35.	10,000 tons.	<b>Moonta.</b>	'31.	2,700 tons.
<b>Manunda.</b>	'29.	9,100 tons.	<b>Mulcra.</b>	'25.	1,200 tons.
<b>Mundalla.</b>	'26.	3,000 tons.			

## Some Well Known Shipping Companies

ADELAIDE S.S. Co.—(Contd.)

### STEAMERS.

<b>Aldinga.</b>	'20.	3,100 tons.	<b>Dilga.</b>	'20.	3,300 tons.
<b>Allara.</b>	'24.	3,300 tons.	<b>Dundula.</b>	'20.	3,300 tons.
<b>Arkaba.</b>	'24.	4,200 tons.	<b>Goondi.</b>	'23.	300 tons.
<b>Aroona.</b>	'18.	3,100 tons.	<b>Noora.</b>	'24.	1,100 tons.
<b>Baruga.</b>	'18.	4,300 tons.	<b>Quorna.</b>	'12.	600 tons.

### STEAMERS (with engines aft).

<b>Broadway.</b>	'21.	700 tons.	<b>Oorama.</b>	'21.	1,100 tons.
(3 masts.)			(3 masts.)		
<b>Kapara.</b>	'14.	800 tons.	<b>Terka.</b>	'25.	400 tons.
<b>Nalpa.</b>	'18.	700 tons.	<b>Tolga.</b>	'25.	400 tons.
			<b>Toorie.</b>	'25.	400 tons.
			<b>Ulooloo.</b>	'24.	3,200 tons.

**DISTINGUISHING FEATURES:**—*Hulls* : Black. *Boot-topping* : Red. *Ventilators* : Buff. *Inside of Cowsls* : Red. *Names* : Australian names, mostly ending in "A."  
**SERVICES:**—*Passenger and Cargo.* Adelaide to Spencer's Gulf and West Coast Ports. Queensland Ports to Sydney, Newcastle, Melbourne, Adelaide, Albany and Fremantle.

## AMERICAN LINE S.S. CORPORATION. (U.S.A.)

[11]

(PANAMA PACIFIC LINE.)

(INTERNATIONAL MERCANTILE MARINE Co.)

New York.

<b>California.</b>	'28.	17,800 tons.	<b>Pennsylvania.</b>	'29.	18,300 tons.
<b>Virginia.</b>	'28.				



## Ships and the Sea

AMERICAN LINE—(Contd.)

**DISTINGUISHING FEATURES:**—*Hulls* : Black except “Columbia” which has white.  
*Boot-topping* : Red. *Ventilators* : Black except “Columbia” which has white.  
**SERVICES:**—*Passenger and Cargo*. New York to Havana, Panama Canal, San Diego,  
 Los Angeles and San Francisco.

### AMERICAN MAIL LINE, LTD. (U.S.A.)

[27]

Seattle, Wash.

#### PASSENGER SHIPS.

<b>President Grant.</b>	'21.	14,100 tons.	<b>President Jefferson.</b>	'20.	14,200 tons.
<b>President Jackson.</b>	'21.	14,100 tons.	<b>President McKinley.</b>	'21.	14,100 tons.
<b>President Madison.</b>	'21.	14,200 tons.			

**DISTINGUISHING FEATURES:**—*Hulls* : Black with white band. *Boot-topping* : Red.  
*Ventilators* : Black. *Masts and Derricks* : Buff.

**SERVICES:**—*Passenger and Cargo*. Seattle and Victoria to Yokohama, Kobe, Shanghai, Hong Kong, Manila and Honolulu. *Cargo only*. Seattle and Puget Sound ports to Yokohama, Kobe, Osaka, Shanghai, Hong Kong, Taku Bar, Dairen, Tsingtao, Chefoo, Amoy, Cebu, Iloilo, Zamboanga and Davao.

### ANCHOR LINE (1935) LTD. (BRITISH)

[23]

Glasgow, C.I.

#### PASSENGER SHIPS.

<b>Britannia.</b>	'26.	8,800 tons.	<b>California.</b>	'23.	16,800 tons
<b>Caledonia</b>	'25.	17,000 tons.	<b>Cameronia.</b>	'20.	16,300 tons.

## Some Well Known Shipping Companies

ANCHOR LINE—(Contd.)

<b>Castalia.</b>	'06.	6,600 tons.	<b>Transylvania.</b>	'23.	17,000 tons.
<b>Elysia.</b>	'08.	6,700 tons.	<b>Tuscania.</b>	'22.	17,000 tons.

### CARGO VESSEL.

**Tarantia.** '11. 5,000 tons.

**DISTINGUISHING FEATURES:—***Hulls* : Black. *Boot-topping* : Red with white dividing line. *Ventilators* : Black. (Small vents white.) *Inside of Cows* : Red. *Names* : Roman Provinces terminating in "IA." Most vessels also have "cowl topped" funnels.

**SERVICES:—***Mail, Passenger and Cargo.* Glasgow and Liverpool to New York and Boston. Glasgow, Liverpool, Manchester and Newport to Gibraltar, Marseilles, Port Said, Suez, Port Sudan, Bombay and Karachi.

## ANGLO-AMERICAN OIL COMPANY LTD. (BRITISH)

[152]

(Subsidiary of STANDARD OIL Co.)

"Esso" OIL.  
(Sea going fleet.)  
London, S.W.1.

### MOTOR SHIPS.

<b>Appalachee.</b>	'30.	8,800 tons.	<b>Comanchee.</b>	'36.	6,800 tons.
<b>Chesapeake.</b>	'27.	9,000 tons.	<b>Robert F. Hand.</b>	'33.	12,200 tons.
<b>Cheyenne.</b>	'30.	8,800 tons.	<b>Schuylkill.</b>	'28.	9,000 tons.

### STEAMERS.

<b>Cadillac.</b>	'17.	12,000 tons.	<b>Iroquois</b>	'07.	9,200 tons.
<b>Housatonic.</b>	'19.	5,600 tons.	<b>Kennebec.</b>	'19.	5,500 tons.
<b>Saranac.</b>	'18.	12,100 tons.			

## Ships and the Sea

ANGLO-AMERICAN OIL Co.—(Contd.)

**DISTINGUISHING FEATURES:**—*Hulls* : Black. *Boot-topping* : Red. *Names* : Mostly North American Indian names. All have engines aft.

**SERVICES:**—*Petroleum trade*. Between Gulf ports, Dutch West Indies and United Kingdom, Continent and Black Sea.

### ANGLO-SAXON PETROLEUM COMPANY LTD. (BRITISH)

[241]

“SHELL” OIL.

London, E.C.3.

MOTOR SHIPS.

<b>Acavus.</b>	'35.	8,100 tons.	<b>Cowrie</b>	'31.	8,200 tons.
<b>Alexia.</b>	'35.	8,100 tons.	<b>Elax.</b>	'27.	7,400 tons.
<b>Amastra.</b>	'35.	8,100 tons.	<b>Elona.</b>	'36.	6,200 tons.
<b>Anadara.</b>	'35.	8,100 tons.	<b>Goldmouth.</b>	'27.	7,400 tons.
<b>Ancylus.</b>	'35.	8,100 tons.	<b>Goldshell.</b>	'31.	8,200 tons.
<b>Auris.</b>	'35.	8,100 tons.	<b>Harpa.</b>	'31.	3,000 tons.
<b>Bullmouth.</b>	'27.	7,500 tons.	<b>Horn Shell.</b>	'31.	8,300 tons.
<b>Bulysses.</b>	'27.	7,500 tons.	<b>Mactra.</b>	'36.	6,200 tons.
<b>Caprella.</b>	'31.	8,200 tons.	<b>Ortinashell.</b>	'91.	2,600 tons.
<b>Capsa.</b>	'31.	8,200 tons.	<b>Patella.</b>	'27.	7,500 tons.
<b>Cardita.</b>	'31.	8,300 tons.	<b>Pecten.</b>	'27.	7,500 tons.
<b>Cardium.</b>	'31.	8,300 tons.	<b>Sepia</b>	'36.	6,300 tons.
<b>Circe Shell.</b>	'31.	8,200 tons.	<b>Simnia</b>	'36.	7,400 tons.
<b>Clam.</b>	'27.	7,400 tons.	<b>Spondilus.</b>	'27.	7,400 tons.
<b>Cliona.</b>	'31.	8,400 tons.	<b>Standella.</b>	'36.	6,300 tons.
<b>Conch.</b>	'31.	8,400 tons.	<b>Telena.</b>	'27.	7,400 tons.
<b>Conus.</b>	'31.	8,300 tons.	<b>Trigonia.</b>	'16.	7,500 tons.
<b>Corbis.</b>	'31.	8,300 tons.	<b>Trocas.</b>	'27.	7,400 tons.

## Some Well Known Shipping Companies

ANGLO-SAXON PET. CO.—(Contd.)

### STEAMERS.

<b>Dolium.</b>	'22.	1,100 tons.	<b>President</b>		
(Bunker vessel at Suez)			<b>Gomez.</b>	'22.	1,100 tons.
<b>Havre.</b>	'05.	2,100 tons.	<b>San Camilo.</b>	'27.	2,500 tons.
<b>Ormer.</b>	'15.	1,400 tons.	<b>Scalaria.</b>	'21.	5,700 tons.
<b>Paludina.</b>	'21.	5,900 tons.	<b>Solen.</b>	'22.	5,700 tons.
<b>Pinna.</b>	'10.	6,100 tons.	<b>Spirila.</b>	'22.	5,700 tons.
<b>Pleiodon.</b>	'22.	5,900 tons.	<b>Turbo.</b>	'12.	4,800 tons.
			<b>Volsella.</b>	'06.	2,000 tons.

**DISTINGUISHING FEATURES:**—*Hulls* : Black. *Boot-topping* : Red. *Ventilators* : White or Buff. *Inside of Cowls* : Buff. *Names* : Mostly names of “Shells.”

**SERVICES:**—*Transport of Petroleum and Products; no Accommodation for Passengers.*

**BELFAST STEAMSHIP COMPANY, LTD. (BRITISH)** [162]  
(ULSTER IMPERIAL LINE.)  
Belfast.

### PASSENGER SHIPS.

<b>Ulster Monarch (M.V.).</b>	'30.	3,700 tons.
<b>Ulster Prince (M.V.).</b>	'29.	3,700 tons.
<b>Ulster Queen (M.V.).</b>	'30.	3,700 tons.
<b>Ulster Castle.</b>	'20.	1,200 tons.
<b>Ulster Star.</b>	'04.	600 tons.

## Ships and the Sea

BELFAST S.S. Co.—(Contd.)

### CARGO SHIP.

**Ulster Hero.** '24. 500 tons. (Engines aft.).

**DISTINGUISHING FEATURES:**—*Hulls* : Black with six-inch white band along top strake. *Boot-topping* : Green (salmon-pink below water-line). *Names* : Have first word "Ulster"; originally ended in "Ic."

**SERVICES:**—*Mail, Passenger and Cargo.* Belfast to Liverpool and Manchester. Liverpool to Londonderry.

**BERGENSKE DAMPSKIBSSELSKAB, A/S. DET. (NORWEGIAN)** [22 & 24]  
Bergen.

### MOTOR VESSELS.

<b>Canis.</b>	'88.	900 tons.	<b>Rigel.</b>	'24.	3,800 tons.
(Engines aft.)			<b>Saturnus.</b>	'30.	1,000 tons.
<b>Cometa.</b>	'21.	3,800 tons.	<b>Stella Polaris.</b>	'27.	5,000 tons.
<b>Crux.</b>	'23.	3,800 tons.	<b>Tellus.</b>	'25.	900 tons.
<b>Estrella.</b>	'20.	3,900 tons.	<b>Uranus.</b>	'25.	900 tons.
		<b>Venus.</b>	'31.	5,400 tons.	

### STEAM SHIPS.

<b>Ara.</b>	'19.	1,000 tons.	<b>Clio.</b>	'22.	600 tons.
<b>Arcturus.</b>	'10.	1,300 tons.	<b>Columba.</b>	'29.	1,100 tons.
<b>Ariadne.</b>	'30.	2,000 tons.	<b>Corvus.</b>	'21.	1,300 tons.
<b>Capella.</b>	'85.	900 tons.	<b>Cygnus.</b>	'21.	1,300 tons.
<b>Castor.</b>	'20.	1,700 tons.	<b>Delfinus.</b>	'12.	1,300 tons.

## Some Well Known Shipping Companies

BERGENSKE DAMPSKIBSSKAB, A/S. DET.—(Contd.)

<b>Diana.</b>	'04.	1,200 tons.	<b>Meteor.</b>	'04.	3,700 tons.
<b>Edna.</b>	'05.	900 tons.	<b>Midnatsol.</b>	'10.	1,000 tons.
<b>Iris.</b>	'01.	1,200 tons.	<b>Mira.</b>	'91.	1,200 tons.
<b>Irma.</b>	'05.	1,400 tons.	<b>Neptun.</b>	'30.	1,600 tons.
<b>Jupiter.</b>	'15.	2,500 tons.	<b>Nordsteirnen.</b>	'82.	900 tons.
<b>Kem.</b>	'25.	1,700 tons.	<b>Nova.</b>	'25.	1,400 tons.
<b>Keret.</b>	'27.	1,700 tons.	<b>Pallas.</b>	'22.	600 tons.
<b>Kora.</b>	'06.	800 tons.	<b>Polarlys.</b>	'12.	1,100 tons.
<b>Leda.</b>	'20.	2,600 tons.	<b>Pollux.</b>	'21.	1,700 tons.
<b>Leo.</b>	'24.	1,400 tons.	<b>Sirius.</b>	'85.	900 tons.
<b>Luna.</b>	'11.	1,000 tons.	<b>Spica.</b>	'15.	500 tons.
<b>Lynx.</b>	'25.	1,400 tons.	<b>Ursa.</b>	'11.	1,000 tons.
<b>Lyra.</b>	'12.	1,500 tons.	<b>Vaga.</b>	'24.	1,600 tons.
<b>Mercur.</b>	'83.	900 tons.	<b>Vela.</b>	'30.	1,200 tons.
			<b>Vesta.</b>	'20.	1,300 tons.

**DISTINGUISHING FEATURES:**—*Hulls* : Black except “Meteor” and “Stella Polaris” which are white. *Boot-topping* : Red. *Ventilators* : Black except above ships which have buff. *Inside of Cows* : Red.

**SERVICES:**—*Mail, Passenger and Cargo.* Bergen to Newcastle. Trondhjem, Bergen, Stavanger and Rotterdam. North Norway to Hamburg. Norwegian coastal services. Bergen to Reykjavik, Trondhjem and Bergen to London, Preston, Manchester and Glasgow. Bergen and Trondhjem to French ports. Bergen and Trondhjem to Belgian ports. Baltic and South Norway ports. Continent to Canadian ports. Pleasure cruising.

## Ships and the Sea

### BIBBY BROTHERS & COMPANY (BRITISH) (BIBBY LINE LTD.) Liverpool.

[137]

#### PASSENGER SHIPS (Motor)

Cheshire.	'27.	10,600 tons.	Shropshire.	'26.	10,600 tons.
Derbyshire.	'35.	11,700 tons.	Staffordshire.	'29.	10,600 tons.
		Worcestershire.	'31.	11,500 tons.	

#### PASSENGER SHIPS (Steam).

Oxfordshire.	'12.	8,600 tons.	Yorkshire.	'20.	10,200 tons.
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#### TROOPERS (Motor).

Dorsetshire.	'20.	9,600 tons.	Somersetshire	'21.	9,600 tons.
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#### TROOPER (Steam).

Lancashire.	'17.	9,500 tons.
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**DISTINGUISHING FEATURES:**—*Hulls* : Black with gold band except Troopers, which have white hulls with broad blue band. *Boot-topping* : Red. *Ventilators* : White. *Inside of Cows* : White. *Names* : All English “Shires.” All passenger vessels have four masts and tall funnel.

**SERVICES:**—*First-class Passenger only, Mail and Cargo.* London, Middlesbrough, Continent and Liverpool to Gibraltar, Marseilles, Port Said, Port Soudan, Southern India, Colombo and Rangoon. Passengers embark at Liverpool and return to London or Plymouth.



## Some Well Known Shipping Companies

### BLAND, M. H., & COMPANY LTD. (BRITISH) [170] (BLAND LINE.)

Gibraltar.

<b>Gibel Dersa.</b>	'97.	1,200 tons.	<b>Gibel Kebir.</b>	'87.	600 tons.
<b>Gibel Dris.</b>	'17.	700 tons.	<b>Gibel Zerjon.</b>	'03.	1,400 tons.

(Engines aft; 3 masts.)

#### TUGS AND SALVAGE CRAFT.

<b>Rescue.</b>	'04.	400 tons.	<b>Zweena.</b>	'01.	100 tons.
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**DISTINGUISHING FEATURES:**—*Hulls* : Black with white band. *Boot-topping* : Red.

*Names* : (Passenger vessels); all have prefix “Gibel” (-hill).

**SERVICES:**—*Passenger and Cargo.* Gibraltar to Tangiers, Casablanca, Melila, Ceuta, Tetuan, Larache, Kenitra, Rabat, Mazagan, Saffi, Mogador, Spain and Mediterranean. Also own about fifty lighters, tenders, etc., from 30–600 tons deadweight.

### BLUE STAR LINE LTD., THE (BRITISH) [189] London, E.C.3.

#### PASSENGER SHIPS.

<b>Almeda Star.</b>	'26.	14,900 tons.	<b>Arandora Star.</b>	'27.	15,300 tons.
<b>Andalucia Star.</b>	'27.	14,900 tons.	(Cruising liner.)		
<b>Avila Star.</b>	'26.	14,400 tons.			

#### CARGO SHIPS.

(Motor).

(Most of which have limited passenger accommodation.)

<b>Australia Star.</b>	'35.	10,800 tons.	<b>Empire Star.</b>	'36.	10,800 tons.
<b>Dunedin Star.</b>	'35.	10,800 tons.	<b>Imperial Star.</b>	'35.	10,700 tons.

## Ships and the Sea

BLUE STAR LINE—(Contd.)

<b>New Zealand Star.</b>	'35.	10,700 tons.	<b>Tuscan Star.</b>	'30.	11,400 tons.
<b>Sydney Star.</b>	'36.	11,000 tons.	<b>Building.</b>	'36.	

### CARGO SHIPS.

(Steam).

(Most of which have limited passenger accommodation.)

<b>Afric Star.</b>	'26.	11,900 tons.	<b>Rodney Star.</b>	'27.	11,800 tons.
<b>Avelona Star.</b>	'27.	10,700 tons.	<b>Sultan Star.</b>	'30.	12,300 tons.
<b>Fresno Star.</b>	'19.	8,000 tons.	<b>Tacoma Star.</b>	'19.	7,900 tons.
<b>Gothic Star.</b>	'99.	5,700 tons.	<b>Trojan Star.</b>	'16.	9,000 tons.
<b>Napier Star.</b>	'27.	10,100 tons.	<b>Viking.</b>	'20.	6,400 tons.

(EASTMANS LTD.)

<b>Doric Star.</b>	'21.	10,100 tons.
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(UNION COLD STORAGE CO. LTD.)

<b>Albion Star.</b>	'19.	7,900 tons.	<b>Norman Star.</b>	'19.	7,000 tons.
<b>Celtic Star.</b>	'18.	5,600 tons.	<b>Royal Star.</b>	'19.	7,900 tons.
<b>Gaelic Star.</b>	'17.	5,600 tons.	<b>Stuart Star.</b>	'26.	11,900 tons.
<b>Ionic Star.</b>	'17.	5,600 tons.	<b>Tudor Star.</b>	'19.	7,200 tons.

**Britanica.** '13. 1,400 tons. (Engines aft.)

**DISTINGUISHING FEATURES:**—*Hulls* : Black except "Arandora," which is white with carmine band. *Boot-topping* : Red, except "Arandora Star," which has green and which also has white mast. *Ventilators* : Stoke-hold, black; deck, white (passenger liners); brown (cargo ships). *Inside of Cowls* : Red. *Names* : With one exception all "Stars." Many of the ships at one time had cowl top funnels, but these have mostly been removed.

**SERVICES:**—*Fast Passenger and Cargo.* U.K. to South American ports via Lisbon and Madeira. *Passenger and Cargo.* U.K. and Continent to Penang, Port Swetten-

# Some Well Known Shipping Companies

ham, Singapore, Hong Kong. Shanghai, Kobe, Yokohama, Tientsin, Australia and New Zealand. Glasgow, Liverpool, Middlesbrough and London to South and East African ports. *Cruises.* To Norway, Mediterranean, West Indies, etc.

## BOOTH STEAMSHIP CO. LTD.

[1]

Liverpool.

### PASSENGER SHIPS.

<b>Anselm.</b>	'35.	5,000 tons.	<b>Hilary.</b>	'31.	7,400 tons.
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### CARGO VESSELS.

<b>Basil.</b>	'28.	4,900 tons.	<b>Clement.</b>	'34.	5,100 tons.
<b>Benedict.</b>	'30.	4,900 tons.	<b>Crispin.</b>	'35.	5,100 tons,
<b>Boniface.</b>	'28.	4,900 tons.	<b>Dunstan.</b>	'25.	5,200 tons.

<b>Polycarp.</b>	'18.	3,600 tons.
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**DISTINGUISHING FEATURES:**—*Hulls* : Black. *Boot-topping* : Red. *Masts* : Lower masts white; top masts brown; extreme tops white with gold truck. *Derricks* : All white. *Ventilators* : Black (small vents are white). *Inside of Cows* : Green.

*Names* : All bear names of Saints.

**SERVICES:**—*Passenger and Cargo.* Liverpool, London and Continent to Para, Manaos. Iquitos, Maranam, Parnahyba and Ceara, calling at Oporto, Lisbon and Madeira. New York to above ports, and other South American ports; also cruises 1,000 miles up the Amazon River.

# Ships and the Sea

BRITISH INDIA STEAM NAVIGATION COMPANY, LTD. (BRITISH) [114]

London, E.C.3.

"B. I."

## PASSENGER SHIPS (Motor).

Dilwara.	'36.	11,100 tons.	Dumana.	'23.	8,400 tons.
		(transport.)	Dumra.	'22.	2,300 tons.
Domala.	'21.	8,400 tons.	Dwarka.	'22.	2,300 tons.

## PASSENGER SHIPS (Steam).

Angora.	'11.	4,200 tons.	Ellora.	'11.	5,100 tons.
Arankola.	'11.	4,200 tons.	Erinpura.	'11.	5,100 tons.
Aronda.	'12.	4,200 tons.	Ethiopia.	'22.	5,600 tons.
Bamora.	'14.	3,200 tons.	Karagola.	'17.	7,100 tons.
Bandra.	'14.	3,200 tons.	Karanja.	'31.	9,900 tons.
Bankura.	'12.	3,200 tons.	Karapara.	'15.	7,100 tons.
Barala.	'12.	3,200 tons.	Karoa.	'15.	7,100 tons.
Barjora.	'12.	3,200 tons.	Kenya.	'30.	9,900 tons.
Baroda.	'11.	3,200 tons.	Khandalla.	'23.	7,100 tons.
Barpeta.	'14.	3,200 tons.	Madura.	'21.	9,100 tons.
Chakdina.	'14.	3,100 tons.	Malda.	'22.	9,100 tons.
Chakla.	'14.	3,100 tons.	Manela.	'21.	8,300 tons.
Chantala.	'20.	3,100 tons.	Mantola.	'21.	9,000 tons.
Chilka.	'22.	4,400 tons.	Mashobra.	'20.	8,300 tons.
Egra.	'11.	5,100 tons.	Masula.	'19.	7,300 tons.
Ekma.	'11.	5,100 tons.	Matiana.	'22.	9,000 tons.
Elephanta.	'11.	5,100 tons.	Modasa.	'21.	9,000 tons.
Ellenga.	'11.	5,100 tons.	Mulbera.	'22.	9,100 tons.

## Some Well Known Shipping Companies

BRITISH INDIA—(Contd.)

<b>Mundra.</b>	'20.	7,300 tons.	<b>Tairea.</b>	'24.	7,900 tons.
<b>Neuralia.</b>	'12.	9,200 tons.	<b>Takada.</b>	'14.	6,900 tons.
(Trooper.)			<b>Takliwa.</b>	'24.	8,000 tons.
<b>Nevasa.</b>	'13.	9,200 tons.	<b>Talamba.</b>	'24.	8,000 tons.
(Trooper.)			<b>Talma.</b>	'23.	10,000 tons.
<b>Rajula.</b>	'26.	8,500 tons.	<b>Tilawa.</b>	'24.	10,000 tons.
<b>Rohna.</b>	'26.	8,500 tons.	<b>Varela.</b>	'14.	4,700 tons.
<b>Santhia.</b>	'25.	7,800 tons.	<b>Varsova.</b>	'14.	4,700 tons.
<b>Shirala.</b>	'25.	7,800 tons.	<b>Vasna.</b>	'17.	4,700 tons.
<b>Sirdhana.</b>	'25.	7,800 tons.	<b>Vita.</b>	'14.	4,700 tons.
<b>Sir Harvey</b>					
<b>Adamson.</b>	'14.	1,000 tons.			

## CARGO VESSELS

(Some of which have passenger accommodation.)  
(Motor).

<b>Dalgoma.</b>	'23.	6,000 tons.	<b>Durenda.</b>	'22.	7,200 tons.
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## CARGO VESSELS (Steam).

<b>Australia.</b>	'12.	7,500 tons.	<b>Gandara.</b>	'19.	5,300 tons.
<b>Binfield.</b>	'19.	5,200 tons.	<b>Garada.</b>	'19.	5,300 tons.
<b>Chinkoa.</b>	'13.	5,200 tons.	<b>Garbeta.</b>	'20.	5,300 tons.
<b>Chyebassa.</b>	'07.	6,300 tons.	<b>Garmula.</b>	'20.	5,300 tons.
<b>Cranfield.</b>	'19.	5,300 tons.	<b>Gazana.</b>	'19.	5,300 tons.
<b>Devon.</b>	'15.	9,000 tons.	<b>Gharinda.</b>	'19.	5,300 tons.
<b>Gairsoppa.</b>	'19.	5,300 tons.	<b>Goalpara.</b>	'19.	5,300 tons.
<b>Gamaria.</b>	'20.	5,300 tons.	<b>Gogra.</b>	'19.	5,300 tons.
<b>Gambada.</b>	'18.	5,300 tons.	<b>Golconda.</b>	'19.	5,300 tons.
<b>Gambhira.</b>	'19.	5,300 tons.	<b>Gurna.</b>	'19.	5,300 tons.

## Ships and the Sea

BRITISH INDIA—(Contd.)

<b>Haresfield.</b>	'19.	5,300 tons.	<b>Nirvana.</b>	'14.	6,000 tons.
<b>Hatarana.</b>	'17.	7,500 tons.	<b>Nowshera.</b>	'19.	6,000 tons.
<b>Hatimura.</b>	'18.	6,700 tons.	<b>Nuddea.</b>	'19.	7,900 tons.
<b>Hatipara.</b>	'18.	7,800 tons.	<b>Ormara.</b>	'14.	4,800 tons.
<b>Homefield.</b>	'19.	5,300 tons.	<b>Ozarda.</b>	'13.	4,800 tons.
<b>Howra.</b>	'22.	6,700 tons.	<b>Queda.</b>	'25.	7,800 tons.
<b>Juna.</b>	'27.	2,200 tons.	<b>Querimba.</b>	'25.	7,800 tons.
<b>Kistna.</b>	'24.	1,500 tons.	<b>Quiloa.</b>	'25.	7,800 tons.
<b>Kola.</b>	'24.	1,500 tons.	<b>Sirsa.</b>	'26.	5,800 tons.
<b>Nagina.</b>	'21.	6,600 tons.	<b>Surada.</b>	'20.	5,800 tons.
<b>Nalgora.</b>	'22.	6,600 tons.	<b>Tanfield.</b>	'16.	4,500 tons.
<b>Nardana.</b>	'19.	8,000 tons.	<b>Warfield.</b>	'17.	6,100 tons.
<b>Naringa.</b>	'23.	6,600 tons.	<b>Warialda.</b>	'18.	3,100 tons.
<b>Nerbudda.</b>	'19.	7,900 tons.	<b>Warina.</b>	'18.	3,100 tons.
<b>Nirpura.</b>	'21.	6,000 tons.	<b>Warora.</b>	'18.	2,300 tons.
		<b>Winkfield.</b>	'19.	5,300 tons.	

**DISTINGUISHING FEATURES:**—*Hulls* : Black with white band. *Boot-topping* : Red. *Ventilators* : Black, except small vents which are same colour as paint on respective decks. *Inside of Cows* : Black. *Upperworks* : Stone colour on main upper deck : white on all decks above. *Boats* : Black. *Davits* : Mostly Black. *Masts* : Lower masts, black; top masts and derricks, full mast colour. *Names* : Nearly all end in "A"; mostly Indian or Oriental names.

**SERVICES:**—*Passenger and Cargo Home Line Services.* Antwerp, Middlesbrough and London to Calcutta, by "M" class steamers. Antwerp, Middlesbrough and London to Karachi and Bombay. Antwerp, Middlesbrough and London to East African ports. London to Australia. *Coastal Services.* Bombay to Kathiawar Coast and

## Some Well Known Shipping Companies

BRITISH INDIA—(Contd.)

Karachi. Bombay to Karachi and Persian Gulf. Bombay to Seychelles, East and South Africa. Burma to Ceylon, India and East Africa. Calcutta to Rangoon. Calcutta to Rangoon, Penang, Port Swettenham and Singapore. Calcutta to Rangoon, Straits, China and Japan. Calcutta to Chittagong, Arracan and Burma. Calcutta to Persian Gulf. Calcutta to Australia and New Zealand. Calcutta and/or Rangoon to Colombo and Mauritius. Calcutta to Coast ports, Bombay and Karachi. Colombo to Tuticorin. Madras to Negapatam, Port Swettenham and Singapore. Rangoon to Mergui. Rangoon to Madras. Rangoon to Coromandel Coast ports. Singapore to Bangkok. Other services as trade requires.

### BRITISH & IRISH STEAM PACKET COMPANY LTD. (BRITISH) [135]

(Controlled by Coast Lines Ltd., Dublin).

“B. & I.”

#### PASSENGER SHIPS.

<b>Lady Cloe.</b>	'16.	1,300 tons.	<b>Lady Leinster.</b>	'12.	2,300 tons.
<b>Lady Connaught.</b>	'06.	1,900 tons.	<b>Lady Louth.</b>	'23.	1,900 tons.
<b>Lady Munster.</b>	'06.			1,900 tons.	

#### CARGO VESSELS.

(Most of which have accommodation for passengers.)

<b>Lady Carlow.</b>	'98.	900 tons.	<b>Lady Martin.</b>	'13.	1,200 tons.
<b>Lady Cavan.</b>	'06.	700 tons.	<b>Lady Meath.</b>	'29.	1,600 tons.
<b>Lady Emerald.</b>	'19.	1,400 tons.	<b>Lady Patricia.</b>	'19.	1,400 tons.
<b>Lady Galway.</b>	'94.	1,000 tons.	<b>Lady Wicklow.</b>	'95.	1,000 tons.
<b>Lady Wimborne.</b>	'15.			1,500 tons.	

**DISTINGUISHING FEATURES:**—*Hulls* : Black with 6 in. white band along top strake.

*Boot-topping* : Green. *Names* : All have prefix “Lady.”



## Ships and the Sea

BRITISH AND IRISH—(Contd.)

SERVICES:—*Mail, Passenger and Cargo.* Dublin to London, Dublin to Plymouth and Southampton. Dublin to Liverpool. Dublin to Manchester. Dublin to Preston.

### BRITISH TANKER COMPANY LTD. (BRITISH)

[192]

London, E.C.2.

“ B.P.” OIL.

#### MOTOR SHIPS.

British Aviator.	'24.	7,000 tons.	British Motorist.	'24.	6,900 tons.
British Chemist.	'25.	7,000 tons.	British Petrol.	'25.	6,900 tons.
British Courage.	'28.	7,000 tons.	British Pluck.	'28.	1,000 tons.
British Diplomat.	'26.	6,500 tons.	British Prestige.	'31.	7,100 tons.
British Dominion.	'28.	6,500 tons.	British Pride.	'31.	7,000 tons.
British Energy.	'31.	7,200 tons.	British Reliance.	'28.	7,000 tons.
British Faith.	'28.	7,000 tons.	British Renown.	'28.	7,000 tons.
British Freedom.	'28.	7,000 tons.	British Resource.	'31.	7,200 tons.
British Glory.	'28.	7,000 tons.	British Science.	'31.	7,100 tons.
British Honour.	'28.	7,000 tons.	British Splendour.	'31.	7,100 tons.
British Hope.	'28.	7,000 tons.	British Strength.	'31.	7,100 tons.
British Justice.	'28.	7,000 tons.	British Thrift.	'28.	700 tons.
British Loyalty.	'28.	7,000 tons.	British Union.	'27.	7,000 tons.
British Valour.		'27.	7,000 tons.		

#### STEAMERS.

British Admiral.	'17.	6,800 tons.	British Architect.	'22.	7,400 tons.
British Advocate.	'22.	7,000 tons.	British Ardour.	'28.	7,100 tons.
British Ambassador.	'24.	6,900 tons.	British Captain.	'23.	7,000 tons.

## Some Well Known Shipping Companies

BRITISH TANKERS—(Contd.)

British Chancellor.	'21.	7,100 tons.	British Industry.	'27.	4,300 tons.
British Chivalry.	'29.	7,100 tons.	British Inventor.	'26.	7,100 tons.
British Colonel.	'21.	7,000 tons.	British Isles.	'17.	7,100 tons.
British Colony.	'27.	6,900 tons.	British Judge.	'21.	6,700 tons.
British Commander.	'22.	6,900 tons.	British Lady.	'23.	6,100 tons.
British Commerce.	'22.	4,200 tons.	British Lord.	'22.	6,100 tons.
British Commodore.	'23.	6,900 tons.	British Mariner.	'22.	7,000 tons.
British Consul.	'24.	6,900 tons.	British Merchant.	'22.	7,000 tons.
British Corporal.	'22.	7,000 tons.	British Officer.	'22.	7,000 tons.
British Councillor.	'22.	7,000 tons.	British Premier.	'22.	5,900 tons.
British Duchess.	'24.	6,000 tons.	British Princess.	'17.	7,000 tons.
British Emperor.	'16.	3,600 tons.	British Progress.	'27.	4,900 tons.
British Empress.	'17.	6,800 tons.	British Sailor.	'18.	5,600 tons.
British Endeavour.	'27.	4,600 tons.	British Scout.	'22.	1,500 tons.
British Engineer.	'22.	7,000 tons.	British Sergeant.	'22.	5,900 tons.
British Ensign.	'17.	7,000 tons.	British Soldier.	'13.	5,600 tons.
British Enterprise.	'21.	4,200 tons.	British Sovereign.	'17.	3,700 tons.
British Fortune.	'30.	4,700 tons.	British		
British Fusilier.	'23.	6,900 tons.	Statesman.	'22.	7,000 tons.
British General.	'22.	7,000 tons.	British Tommy.	'21.	1,400 tons.
British Governor.	'26.	6,900 tons.	British Trader.	'21.	4,200 tons.
British Grenadier.	'22.	6,900 tons.	British Venture.	'30.	4,700 tons.
British Gunner.	'22.	6,900 tons.	British Viscount.	'21.	6,900 tons.
British Hussar.	'23.	6,900 tons.	British Workman.	'22.	7,000 tons.
British Yeoman.	'23.	7,000 tons.			

## Ships and the Sea

BRITISH TANKERS—(Contd.)

(Managers of the following vessels on behalf of Admiralty.)

<b>British Beacon.</b>	'18.	6,900 tons.	<b>War Bharata.</b>	'20.	5,600 tons.
<b>British Lantern.</b>	'18.	6,900 tons.	<b>War Nawab.</b>	'19.	5,600 tons.
<b>British Light.</b>	'17.	6,700 tons.	<b>War Nizam.</b>	'18.	5,600 tons.
<b>British Star.</b>	'18.	6,900 tons.	<b>War Sudra.</b>	'20.	5,600 tons.

**DISTINGUISHING FEATURES:**—*Hulls* : Very dark "topside grey"; appear almost black at sea; vessels used to be painted a lighter grey. *Boot-topping* : Red. *Masts, Derricks, etc.* : White. *Names* : All have first word "British."

The old House Flag and funnel used to be different, being changed a few years ago as a compliment to the Iranian Government, introducing the National Colours and the Iranian Lion. The old funnel used to be black with a white band between two red, and the white broadened in the centre so as to form a disc on which were the letters, B T C in black, the centre letter being taller than the others. The House Flag was the same as the funnel device.

**SERVICES:**—*Petroleum Trade.* Between Persian Gulf—U.K. and Continent. *Most vessels have accommodation for about eight passengers or supernumeraries.*

**BROCKLEBANK, THOS. & JNO., LTD (BRITISH)**

[42]

(ANCHOR-BROCKLEBANK LINE.)

Liverpool.

<b>Magdapur.</b>	'20.	8,600 tons.	<b>Mahsud.</b>	'17.	7,600 tons.
<b>Mahanada.</b>	'14.	7,200 tons.	<b>Maidan.</b>	'25.	7,900 tons.
<b>Mahout.</b>	'25.	7,900 tons.	<b>Maihar.</b>	'17.	7,600 tons.
<b>Mahratta.</b>	'17.	6,700 tons.	<b>Maimyo.</b>	'18.	5,800 tons.
<b>Mahronda.</b>	'25.	7,900 tons.	<b>Makalla.</b>	'18.	6,800 tons.
<b>Mahseer.</b>	'25.	7,900 tons.	<b>Malakand.</b>	'19.	7,600 tons.

## Some Well Known Shipping Companies

BROCKLEBANK—(Contd.)

<b>Manaar.</b>	'17.	7,200 tons.	<b>Marwarri.</b>	'35.	8,000 tons.
<b>Mandasor.</b>	'20.	5,100 tons.	<b>Masirah.</b>	'19.	6,600 tons.
<b>Mangalore.</b>	'20.	8,900 tons.	<b>Matheran.</b>	'19.	7,700 tons.
<b>Manipur.</b>	'20.	8,700 tons.	<b>Mathura.</b>	'20.	8,900 tons.
<b>Markhor.</b>	'29.	7,900 tons.	<b>Matra.</b>	'26.	7,900 tons.
		<b>Stockwell.</b>	'14.	5,800 tons.	

**DISTINGUISHING FEATURES:**—*Hulls* : Black with 22 in. white band on topsides. *Boot-topping* : Red. *Masts, Derricks, etc.* : All white. *Ventilators* : Black (small vents white). *Inside of Cows* : Red. *Names* : Mostly Indian names beginning with "M." *Funnels* : Mostly "cowl-topped." *House Flag* : Flown from foremast, not from mainmast.

**SERVICES:**—*Cargo, with no Accommodation for Passengers.* Swansea, Newport, Manchester, Glasgow and Liverpool to Calcutta. Continental Ports, Middlesbrough and London to Colombo, Madras and Calcutta. Calcutta and Colombo to Boston, New York, Philadelphia and Baltimore. United States Ports to London and Avonmouth.

## BULLARD, KING & COMPANY LTD. (BRITISH)

[255]

(NATAL LINE.)

London, E.C.3.

### PASSENGER SHIPS.

<b>Umkuzi.</b>	'03.	5,200 tons.	<b>Umtata.</b>	'36.	8,400 tons.
<b>Umona.</b>	'10.	3,800 tons.	<b>Umvoti.</b>	'03.	5,200 tons.
<b>Umtali.</b>	'36.	8,400 tons.	<b>Umvuma.</b>	'14.	4,400 tons.

## Ships and the Sea

BULLARD, KING—(Contd.)

### CARGO VESSEL.

**Umlazi.**                      '18.                      4,300 tons.

**DISTINGUISHING FEATURES:**—*Hulls* : Dove-grey. *Boot-topping* : Red. *Ventilators* : Black. *Inside of Cowls* : Red. *Names* : Zulu names with prefix "Um."  
**SERVICES:**—*Passenger and Cargo*. London to Port Natal, Lourenco Marques and Beira calling at Cape Town occasionally. Natal, South and East African ports to Bombay, Calcutta and Madras calling at Colombo.

### BURNS & LAIRD LINES LTD. (BRITISH)

[150]

London, S.W.1.

#### PASSENGER SHIPS.

Laird's Isle.	'11.	1,800 tons.	Lairdshill.	'21.	1,800 tons.
Lairdscastle.	'24.	1,900 tons.	Lairdsloch.	'06.	1,500 tons.
Lairdsglen.	'14.	1,300 tons.	Lairdsmoor.	'19.	1,600 tons.
Lairdsgrove.	'98.	1,200 tons.	Lairdsrose.	'02.	1,100 tons.

#### CARGO VESSELS.

Lairdsben.	'93.	700 tons.	Lairdsferry.	'18.	700 tons.
Lairdsbrook.	'20.	800 tons.	Lairdsheather.	'98.	500 tons.
(Engines aft.)			Lairdspool.	'96.	600 tons.
<b>Lairdsrock.</b>	'98.	1,200 tons.			

**DISTINGUISHING FEATURES:**—*Hulls* : Black. *Boot-topping* : Red. *Names* : All have prefix "Lairds." *Boats* : Some black, some white.

**SERVICES:**—*Passenger and Cargo*. Ardrossan to Belfast. Ayr to Belfast and Larne. Glasgow to Belfast, Ballina, Coleraine, Sligo and West Port. Glasgow to Greenock, Dublin to Londonderry. Heysham to Londonderry.

## Some Well Known Shipping Companies

**CANADIAN PACIFIC STEAMSHIPS LTD.** (BRITISH) [216]  
(Owners: CANADIAN PACIFIC RAILWAY Co.)  
London, S.W.1.

### PASSENGER SHIPS (Atlantic Service).

<b>Duchess of Atholl.</b>	'28.	20,100 tons.	<b>Empress of Australia.</b>	'14.	21,800 tons.
<b>Duchess of Bedford.</b>	'28.	20,100 tons.	<b>Empress of Britain.</b>	'31.	42,300 tons.
<b>Duchess of Richmond.</b>	'28.	20,000 tons.	<b>Montcalm.</b>	'21.	16,400 tons.
<b>Duchess of York.</b>	'29.	20,000 tons.	<b>Montclare.</b>	'22.	16,400 tons.
	<b>Montrose.</b>	'22.			16,400 tons.

### PASSENGER SHIPS (Pacific Service).

<b>Empress of Asia.</b>	'13.	16,900 tons.	<b>Empress of Japan.</b>	'30.	26,000 tons.
<b>Empress of Canada.</b>	'22.	21,500 tons.	<b>Empress of Russia.</b>	'13.	16,800 tons.

### CARGO VESSELS (Atlantic).

<b>Beaverbrae.</b>	'28.	10,000 tons.	<b>Beaverdale.</b>	'28.	10,000 tons.
<b>Beaverburn.</b>	'27.	9,900 tons.	<b>Beaverford.</b>	'28.	10,000 tons.
	<b>Beaverhill.</b>	'28.			10,000 tons.

**DISTINGUISHING FEATURES :—** *Hulls* : All “Empresses,” white with blue riband, remainder of fleet, black. *Boot-topping* : Green. *Ventilators* : Buff. *Inside of Cows* : Red. *Boats* : Most “Empresses” have brown painted boats. *Names* : “Beavers,” “Duchesses,” “Empresses” and “Monts.”

These ships can be distinguished from those of the Pacific Steam Nav. Co., which also have same colouring, by the fact that all the latter have single funnels except “Reina del Pacifico,” which is white-painted but cannot be mistaken for an “Empress” on account of her two small “motor ship” funnels.



## Ships and the Sea

CANADIAN PACIFIC—(Contd.)

**SERVICES:**—*Mail, Passenger and Cargo.* Liverpool, Belfast, Glasgow, Southampton to Quebec and Montreal (in summer) and to St. John, New Brunswick (in winter). Vancouver to Honolulu, Yokohama, Kobe, Nagasaki, Shanghai, Manila and Hong Kong. Vancouver to Australia and New Zealand via Suva and Fiji (in conjunction with Canadian Australian Line—U.S.N.Z.). *Cargo Service only.* London and Continent to Quebec and Montreal.

**CARRON COMPANY, THE** (BRITISH) [25]  
(Royal Charter, 1773.)  
Carron, Falkirk.

**Carron.** '94. 1,000 tons. **Forth.** '27. 1,100 tons.  
**DISTINGUISHING FEATURES:**—*Hulls :* Black. *Boot-topping :* Red. Vessels carry a cannon-ball just below the truck of mainmast. *Names :* Vessels have been named after "Rivers" since middle of last century; "Carron" is fifth of that name and "Forth" is the third holder.

**SERVICES:**—Scotland to London (via Grangemouth) and vice versa.

**CHARGEURS RÉUNIS, COMPAGNIE FRANÇAISE DE NAVIGATION À**  
**VAPEUR.** (FRENCH) [15]  
Paris.

### PASSENGER SHIPS.

<b>Ango.</b>	'13.	7,100 tons.	<b>Brazza (M.V.).</b>	'23.	10,200 tons.
<b>Asie.</b>	'14.	8,600 tons.	<b>Cap Padaran.</b>	'22.	8,000 tons.
<b>Aurigny.</b>	'18.	9,600 tons.	<b>Cap St. Jacques.</b>	'22.	8,000 tons.
<b>Belle Isle.</b>	'18.	9,600 tons.	<b>Cap Tourane.</b>	'23.	8,000 tons.
<b>Bougainville.</b>	'13.	7,100 tons.			



## Some Well Known Shipping Companies

CHARGEURS REUNIS—(Contd.)

<b>Cap Varella.</b>	'21.	8,000 tons.	<b>Formose.</b>	'21.	10,000 tons.
<b>D'Entrecasteaux.</b>	'22.	7,300 tons.	<b>Foucauld.</b>	'22.	11,000 tons.
<b>Désirade.</b>	'21.	9,600 tons.	<b>Groix.</b>	'22.	10,000 tons.
<b>Dupleix.</b>	'14.	7,100 tons.	<b>Jamaïque.</b>	'22.	10,000 tons.
<b>Eubée.</b>	'21.	9,600 tons.	<b>Kerguelen.</b>	'22.	10,100 tons.
<b>Forbin.</b>	'22.	9,300 tons.	<b>Lipari.</b>	'22.	10,000 tons.

### CARGO VESSELS.

<b>Aden.</b>	'18.	8,000 tons.	<b>Fort Binger.</b>	'19.	5,200 tons.
<b>Adrar.</b>	'20.	5,900 tons.	<b>Fort de Douaumont.</b>	'18.	5,300 tons.
<b>Bangkok.</b>	'19.	8,100 tons.	<b>Fort de Souville.</b>	'18.	5,200 tons.
<b>Baoulé.</b>	'21.	5,900 tons.	<b>Fort de Troyon.</b>	'19.	5,200 tons.
<b>Dahomey.</b>	'21.	5,900 tons.	<b>Fort de Vaux.</b>	'18.	5,200 tons.
<b>Dalny.</b>	'14.	6,700 tons.	<b>Fort Lamy.</b>	'19.	5,200 tons.
<b>Fort Archambault.</b>	'18.	5,500 tons.	<b>Fort Medine.</b>	'19.	5,400 tons.

**Linois.** '07. 7,500 tons.

DISTINGUISHING FEATURES:—*Hulls* : Black. *Boot-topping* : Red. *Ventilators* :  
White. *Inside of Cows* : Red.

SERVICES:—*Mail, Passenger and Cargo.* From French ports to Indo-China, South  
America and French West Coast of Africa.

(COMPAGNIE DES TRANSPORTS MARITIMES DE L'AFRIQUE

OCCIDENTALE FRANÇAISE.)

[5]

<b>Kakoulima.</b>	'32.	3,700 tons.	<b>Kindia.</b>	'19.	2,000 tons.
<b>Katiola.</b>	'36.	3,800 tons.	<b>Kolenté.</b>	'32.	3,700 tons.
<b>Kilissi.</b>	'34.	3,700 tons.	<b>Building.</b>	'36.	

DISTINGUISHING FEATURES:—*Hulls* : Grey. *Boot-topping* : Red. *Ventilators* :  
Black. *Inside of Cows* : Red.

## Ships and the Sea

CHARGEURS REUNIS—(Contd.)

SERVICES:—*Fruit Trade.* From West Coast of Africa to Europe. The first specially designed banana carriers for France. The Chargeurs Réunis company also controls the Compagnie de Navigation Sud-Atlantique (q.v.).

### CLAN LINE STEAMERS LTD., THE (BRITISH)

[56]

(CAYZER IRVINE & Co., LTD.)

London, E.C.3.

Clan Alpine.	'18.	5,400 tons.	Clan Macinnes.	'20.	4,700 tons.
Clan Cameron.	'36.	tons.	Clan Maciver.	'21.	4,500 tons.
Clan Chisholm.	'36.	tons.	Clan Mackay.	'14.	6,600 tons.
Clan Colquhoun.	'18.	7,900 tons.	Clan Mackellar.	'13.	6,400 tons.
Clan Farquhar.	'18.	8,000 tons.	Clan Mackenzie.	'17.	6,600 tons.
Clan Keith.	'14.	5,700 tons.	Clan Mackinlay.	'18.	6,400 tons.
Clan Macalister.	'30.	6,800 tons.	Clan Macnab.	'20.	6,100 tons.
Clan Macarthur.	'35.	10,300 tons.	Clan Macnair.	'21.	6,100 tons.
Clan Macaulay.	'36.	10,300 tons.	Clan		
Clan Macbean.	'18.	5,100 tons.	Macnaughton.	'21.	6,100 tons.
Clan Macbeth.	'13.	4,600 tons.	Clan Macneil.	'22.	6,100 tons.
Clan Macbrayne.	'16.	4,800 tons.	Clan Macphee.	'11.	6,600 tons.
Clan Macbride.	'12.	4,900 tons.	Clan Macpherson.	'29.	6,900 tons.
Clan Macdougall			Clan Macquarrie.	'13.	6,500 tons.
(M.V.).	'29.	6,800 tons.	Clan Mactaggart.	'20.	7,600 tons.
Clan Macfadyn.	'23.	6,200 tons.	Clan Mactavish.	'21.	7,600 tons.
Clan Macfarlane.	'22.	6,200 tons.	Clan Macvicar.	'18.	5,800 tons.
Clan Macgillivray.	'11.	6,500 tons.	Clan Macwhirter.	'18.	5,900 tons.
Clan Macilwraith.	'24.	4,800 tons.	Clan Matheson.	'19.	5,600 tons.
Clan Macindoe.	'20.	4,600 tons.	Clan Monroe.	'18.	5,900 tons.

## Some Well Known Shipping Companies

CLAN LINE—(Contd.)

Clan Morrison.	'18.	5,900 tons.	Clan Robertson.	'20.	8,000 tons.
Clan Murdoch	'19.	5,900 tons.	Clan Ross.	'14.	5,900 tons.
Clan Murray.	'18.	6,000 tons.	Clan Skene.	'18.	5,200 tons.
Clan Ogilvy.	'14.	5,800 tons.	Clan Stuart.	'16.	5,800 tons.
Clan Ronald.	'17.	5,500 tons.	Clan Urquhart.	'11.	9,600 tons.
Building.		'36.			

**DISTINGUISHING FEATURES:**—*Hulls* : Black. *Boot-topping* : Red. *Masts and Derricks* : Grey. *Ventilators* : Engine room, black; deck, grey. *Inside of Cows* : White. *Names* : All "Clans."

**SERVICES:**—*Cargo*. No Accommodation for Passengers. Newport, Glasgow and Liverpool to Mossell Bay, Algoa Bay and E. London. Newport, Glasgow and Liverpool to Natal, Lorenzo Marques and Beira, also to Mauritius, Red Sea and E. African ports. Newport, Glasgow, Manchester and Liverpool to Bombay, Malabar Coast and Tuticorin, Colombo, Madras and Calcutta. Australia, India, South Africa, E. African ports (via Suez) to U.K., Continent and U.S.A.  
Joint services with Ellerman, Strick and Harrison Lines.

## CLYDE SHIPPING COMPANY LTD. (BRITISH)

[27]

Glasgow, C.5.

Aranmore.	'20.	1,100 tons.	Longships.	'17.	1,600 tons.
Ballycotton.	'11.	1,300 tons.	Pladda.	'07.	1,300 tons.
Copeland.	'23.	1,500 tons.	Rockabill.	'31.	1,400 tons.
Eddystone.	'27.	1,600 tons.	Sanda.	'11.	1,000 tons.
Fastnet.	'28.	1,400 tons.	Skerries.	'21.	1,300 tons.
Goodwin.	'17.	1,600 tons.	Toward.	'23.	1,600 tons.
Tuskar.		'20.	1,200 tons.		

## Ships and the Sea

CLYDE SHIPPING Co.—(Contd.)

**DISTINGUISHING FEATURES:**—*Hulls* : Black. *Boot-topping* : Flesh. *Deck-houses* : Brown (grained). *Ventilators* : Brown (grained). *Inside of Cows* : Red. *Boats* : Black. *Names* : All names of well known lighthouses or lightships.

Also own a fleet of fourteen steam tugs the names of which all have prefix “Flying,” e.g. “Flying Condor,” etc.

**SERVICES:**—*Passenger and Cargo*. Glasgow, Greenock, Belfast and Waterford to Plymouth, Southampton, Newhaven and London. Glasgow, Greenock, Belfast and Waterford to Cork and Limerick. Belfast and Dublin to Waterford, Cork. Waterford to Liverpool, Bristol and Cardiff. Glasgow and Greenock to Antwerp and Ghent.

### COAST LINES LTD. (BRITISH)

[33]

Liverpool.

<b>Carmarthen Coast.</b>	'21.	1,000 tons.	<b>Southern Coast.</b>	'11.	1,900 tons.
<b>Highland Coast.</b>	'12.	1,100 tons.	<b>Western Coast.</b>	'19.	1,400 tons.
<b>Killarney.</b>	'93.	1,800 tons.	<b>Yorkshire Coast.</b>	'13.	700 tons.

(Cruising yacht.)

VESSELS with engines aft.

MOTOR.

<b>Anglian Coast.</b>	'35.	1,600 tons.	<b>British Coast.</b>	'34.	800 tons.
<b>Atlantic Coast.</b>	'34.	900 tons.	<b>Ocean Coast.</b>	'35.	1,600 tons.
<b>Pacific Coast.</b>		'35.	1,600 tons.		

STEAM.

<b>Anglesey Coast.</b>	'11.	900 tons.	<b>Cardigan Coast.</b>	'13.	800 tons.
<b>Ayrshire Coast.</b>	'22.	800 tons.	<b>Cheshire Coast.</b>	'15.	1,100 tons.
<b>Cambrian Coast.</b>	'22.	800 tons.	<b>Durham Coast.</b>	'12.	800 tons.

## Some Well Known Shipping Companies

COAST LINES—(Contd.)

<b>Eastern Coast.</b>	'22.	1,200 tons.	<b>Northern Coast.</b>	'21.	1,200 tons.
<b>Fife Coast.</b>	'33.	400 tons.	<b>Orkney Coast.</b>	'09.	800 tons.
<b>Gloucester Coast.</b>	'13.	900 tons.	<b>Scottish Coast.</b>	'22.	800 tons.
<b>Hampshire Coast.</b>	'11.	800 tons.	<b>Somerset Coast.</b>	'20.	1,400 tons.
<b>Lancashire Coast.</b>	'20.	1,100 tons.	<b>Suffolk Coast.</b>	'17.	900 tons.
<b>Monmouth Coast.</b>	'24.	900 tons.	<b>Welsh Coast.</b>	'15.	1,100 tons.

**DISTINGUISHING FEATURES:**—*Hulls* : Black with exception of “ Killarney ” which is grey and which has buff funnels. *Boot-topping* : Red with white dividing line.

*Names* : Nearly all have suffix, “ Coast.”

**SERVICES:**—*Passenger and Cargo.* Most British Coastal ports.

## COLONIAL, COMPANHIA DE NAVEGAÇÃO. (PORTUGUESE) [?]

Lisbon.

<b>Benguela.</b>	'05.	4,300 tons.	<b>João Belo.</b>	'05.	6,400 tons.
<b>Buzi.</b>	'03.	1,300 tons.	<b>Loanda.</b>	'00.	5,100 tons.
<b>Cassequel.</b>	'01.	4,800 tons.	<b>Lobito.</b>	'06.	2,700 tons.
<b>Colonial.</b>	'08.	8,300 tons.	<b>Malange.</b>	'04.	3,200 tons.
<b>Ganda.</b>	'07.	4,300 tons.	<b>Mouzinho.</b>	'07.	8,400 tons.
<b>Guiné.</b>	'05.	2,700 tons.	<b>Pungue.</b>	'00.	4,000 tons.

**Sena.** '22. 1,200 tons.

**DISTINGUISHING FEATURES:**—*Hulls* : Grey. *Boot-topping* : Red. *Ventilators* : Buff. *Inside of Cowls* : Red.

**SERVICES:**—*Passenger and Cargo.* Lisbon to West and East African ports. Lisbon to West African ports only. *Cargo only.* Lisbon to North European and Africa.

## Ships and the Sea

### COMMONWEALTH & DOMINION LINE LTD. (BRITISH) [173]

(PORT LINE.)

(CUNARD CARGO SERVICE.)

London, E.C.3.

#### MOTOR SHIPS.

Port Alma.	'28.	8,000 tons.	Port Gisborne.	'27.	8,000 tons.
Port Chalmers.	'34.	8,500 tons.	Port Hobart.	'25.	7,400 tons.
Port Dunedin.	'25.	7,500 tons.	Port Huon.	'27.	8,000 tons.
Port Fairy.	'28.	8,000 tons.	Port Townsville.	'35.	8,500 tons.
Port Fremantle.	'27.	8,100 tons.	Port Wyndham.	'35.	8,700 tons.

#### STEAMERS.

Port Adelaide.	'19.	8,400 tons.	Port Hardy.	'23.	8,700 tons.
Port Auckland.	'22.	8,300 tons.	Port Hunter.	'22.	8,400 tons.
Port Bowen.	'19.	8,300 tons.	Port Melbourne.	'14.	9,120 tons.
Port Campbell.	'22.	8,300 tons.	Port Napier.	'12.	8,500 tons.
Port Caroline.	'19.	8,300 tons.	Port Nicholson.	'18.	8,400 tons.
Port Darwin.	'18.	8,100 tons.	Port Sydney.	'14.	9,100 tons.
Port Denison.	'18.	8,000 tons.	Port Wellington.	'24.	7,900 tons.

**DISTINGUISHING FEATURES:**—*Hulls* : Silver Grey. *Boot-topping* : Red. *Ventilators* : Mast Colour (Brown). *Names* : Australasian "Ports."

**SERVICES:**—*All ships have Accommodation for a few Passengers.* London to Australia and New Zealand. New York to Australia and New Zealand. West Coast Ports U.K. to New Zealand direct (via Panama).

## Some Well Known Shipping Companies

### CUNARD WHITE STAR LTD. (BRITISH) [172 and 249] Liverpool.

#### PASSENGER SHIPS.

#### CUNARD SHIPS.

<b>Alaunia.</b>	'25.	14,000 tons.	<b>Carinthia.</b>	'25.	20,300 tons.
<b>Andania.</b>	'22.	14,000 tons.		(Cruising ship.)	
<b>Antonia.</b>	'21.	13,900 tons.	<b>Franconia.</b>	'23.	20,200 tons.
<b>Aquitania.</b>	'14.	45,600 tons.		(Cruising ship.)	
<b>Ascania.</b>	'25.	14,000 tons.	<b>Laconia.</b>	'22.	19,700 tons.
<b>Aurania.</b>	'24.	14,000 tons.	<b>Lancastria.</b>	'22.	16,200 tons.
<b>Ausonia.</b>	'21.	13,900 tons.	<b>Queen Mary.</b>	'36.	80,800 tons.
<b>Berengaria.</b>	'12.	52,100 tons.	<b>Samaria.</b>	'21.	19,600 tons.
			<b>Scythia.</b>	'20.	20,000 tons.

**DISTINGUISHING FEATURES:**—*Hulls* : Black. *Boat-topping* : Red with white dividing line. *Ventilators* : White. *Inside of Cowls* : Red. *Masts, derricks and steam-pipes by funnels* : Golden brown. *Names* : Roman provinces ending in “ia.”

#### WHITE STAR SHIPS.

<b>Britannic (M.V.).</b>	'30.	26,900 tons.	<b>Laurentic.</b>	'27.	18,700 tons.
			<b>Georgic (M.V.).</b>	'32.	27,800 tons.

**DISTINGUISHING FEATURES:**—*Hulls* : Black with gold band. *Boat-topping* : Red. *Ventilators* : White. *Inside of Cowls* : White. *Crows nests* : White. *Names* : End in “ic.”

**SERVICES:**—*Mail and Passenger to United States.* Southampton via Cherbourg to New York (Express service). Southampton, Liverpool, Cobh, Galway, Glasgow



## Ships and the Sea

CUNARD WHITE STAR—(*Contd.*)

and Belfast to New York and Boston via Havre. *Mail and Passenger to Canada.* Southampton, Liverpool, London, Glasgow, Belfast and Havre to Quebec and Montreal (Summer), Halifax N.S. and St. John N.B. (Winter). *Cruises.* West and North Africa, Canaries, Madeira, Spain, Portugal, Egypt, Italy, Mediterranean Ports, Norwegian Fjords, and Round the World.

### DEUTSCHE OST AFRIKA LINIE (GERMAN) (GERMAN EAST AFRICA LINE.) Hamburg.

[31]

#### PASSENGER SHIPS.

Njassa.	'24.	8,800 tons.	} (May run in Hamburg-Amerika colours.)		
Tanganjika.	'22.	8,500 tons.			
Ubenä.	'28.	9,600 tons.	Usaramo.	'20.	7,800 tons.
Usambara.	'22.	8,700 tons.	Ussukuma.	'20.	7,800 tons.
Building.	'36.	16,000 tons.	(Probably 3 ships of same size.)		

#### CARGO VESSELS.

Muansa.	'11.	5,500 tons.	
Rufidji.	'21.	1,400 tons.	(Coastal ship.)
Urundi.	'20.	5,800 tons.	

**DISTINGUISHING FEATURES:**—*Hulls* : Silver grey. *Boot-topping* : Red. *Masts and Derricks* : Deep cream. *Ventilators* : Buff. *Inside of Cowls* : Red.

**SERVICES:**—*Mail, Passenger and Cargo.* To and from West Africa, Angola, South-West African ports, South African ports and East African ports, via Mediterranean, Suez and Canary Islands.

## Some Well Known Shipping Companies

### DOLLAR STEAMSHIP LINES INC., LTD. (U.S.A.) San Francisco, Cal.

[9]

#### PASSENGER SHIPS.

<b>President Adams.</b>	'21.	10,500 tons.	<b>President Johnson.</b>	'04.	15,500 tons.
<b>President Cleveland.</b>	'21.	14,100 tons.	<b>President Lincoln.</b>	'21.	14,200 tons.
<b>President Coolidge.</b>	'31.	21,900 tons.	<b>President Monroe.</b>	'20.	10,500 tons.
<b>President Fillmore.</b>	'04.	15,600 tons.	<b>President Pierce.</b>	'21.	14,100 tons.
<b>President Garfield.</b>	'21.	10,500 tons.	<b>President Polk.</b>	'21.	10,500 tons.
<b>President Harrison.</b>	'21.	10,500 tons.	<b>President Taft.</b>	'21.	14,100 tons.
<b>President Hayes.</b>	'20.	10,500 tons.	<b>President Van</b>		
<b>President Hoover.</b>	'30.	21,900 tons.	<b>Buren.</b>	'20.	10,500 tons.
		<b>President Wilson.</b>	'21.	14,100 tons.	

#### CARGO VESSELS.

<b>Diana Dollar.</b>	'21.	7,000 tons.	<b>Melville Dollar.</b>	'21.	7,000 tons.
		<b>Margaret Dollar.</b>	'21.	7,000 tons.	

**DISTINGUISHING FEATURES:**—*Hulls* : Black with thin red band. *Boot-topping* : Red. *Ventilators* : Black. *Inside of Cows* : Red. *Masts and Derricks* : Buff.  
**SERVICES:**—*Passenger and Cargo.* New York to Havana, Cristobal, Balboa, Los Angeles, San Francisco, Honolulu, Yokohama, Kobe, Shanghai, Hong Kong, Manila, Singapore, Penang, Colombo, Suez, Port Said, Alexandria, Naples, Genoa, Marseilles, Boston and New York. *Trans-Pacific Service.*

# Ships and the Sea

## DONALDSON ATLANTIC LINE LTD. (BRITISH) Glasgow, C.I.

[84]

### PASSENGER SHIPS.

<b>Athenia.</b>	'23.	13,500 tons.	<b>Letitia.</b>	'25.	13,500 tons.
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**DISTINGUISHING FEATURES:**—*Hulls* : Black. *Boot-topping* : Red with white dividing line. *Ventilators* : Black (small vents brown). *Inside of Cowls* : Red. *Names* : Have suffix "Ia."

**SERVICES:**—*Passenger and Cargo.* Glasgow to Halifax, Nova Scotia and St. John (N.B.) in winter. Glasgow to Quebec and Montreal in summer.

## DUBROVACKA PAROBRODSKA PLOVIDBA a.d. (YUGO-SLAVIAN) [1 & 8] (RAGUSA STEAM NAV. CO. LTD.) Dubrovnik.

<b>Bosanka.</b>	'05.	3,500 tons.	<b>Nikola Pasic.</b>	'27.	4,800 tons.
<b>Dubac.</b>	'01.	2,800 tons.	<b>Petka.</b>	'96.	500 tons.
<b>Dubravka.</b>	'05.	3,800 tons.	<b>Pracat.</b>	'00.	2,300 tons.
<b>Dubrovnik.</b>	'09.	1,000 tons.	<b>Prinoc Andrej.</b>	'30.	5,000 tons.
<b>Durmitor.</b>	'13.	5,600 tons.	<b>Sipan.</b>	'31.	300 tons.
<b>Federiko Glavic.</b>	'23.	5,300 tons.	<b>Srebreno.</b>	'01.	3,300 tons.
<b>Kralj</b>			<b>Srgj.</b>	'05.	3,600 tons.
<b>Aleksandar I.</b>	'32.	2,500 tons.	<b>Sveti Vlaho.</b>	'28.	6,000 tons.
<b>Kumanovo.</b>	'07.	1,400 tons.			

## Some Well Known Shipping Companies

DUBROVACKA—(Contd.)

**DISTINGUISHING FEATURES:**—*Hulls* : Passenger ships white, cargo ships black.

*Boot-topping* : Red. *Ventilators* : Buff. *Inside of Cows* : Red.

**SERVICES:**—*Mail, Passenger and Cargo.* Dubrovnik (Gravosa) to Cattaro (Kotor), Split (Spalato), other Adriatic ports and Trieste. *Cargo only.* Dubrovnik to Bari, principal Adriatic ports, Greece, Anatolia, Egypt, Syria and Asia Minor.

## DUNDEE, PERTH & LONDON SHIPPING CO. LTD., THE (BRITISH) [143]

“D.P. & L.”

Dundee.

### PASSENGER SHIPS.

<b>Dundee.</b>	'34.	1,500 tons.	<b>London.</b>	'21.	1,500 tons.
	<b>Perth.</b>		'15.	2,200 tons.	

### CARGO VESSELS (Excluding lighters, etc.).

<b>Arbroath (M.V.).</b>	'35.	tons.	<b>Gateshead.</b>	'19.	700 tons.
(Engines aft.)			(Engines aft.)		
<b>Broughty.</b>	'21.	500 tons.	<b>Gowrie.</b>	'09.	700 tons.
(Engines aft.)			<b>Lochee.</b>	'18.	1,100 tons.
			(Engines aft.)		
	<b>Louga.</b>		'98.	900 tons.	

**DISTINGUISHING FEATURES:**—*Hulls* : Black. *Boot-topping* : Red with white dividing line. *Masts and Derricks* : Light brown. *Upperworks* : Cream in passenger ships, brown in others. *Boats* : White.

**SERVICES:**—*Passenger and Cargo.* Dundee to London, calling at Southend. Dundee to Hull. Dundee to Newcastle. Dundee and Leith to Southampton and

## Ships and the Sea

DUNDEE, PERTH—(Contd.)

Portsmouth. Aberdeen to Hull. Aberdeen to Newcastle. Kirkcaldy to Newcastle and Hull.

RIVER SERVICES:—Dundee and Leith to Perth.

**EAGLE OIL & SHIPPING CO. LTD.** (BRITISH)  
(ANGLO-MEXICAN PETROLEUM CO., LTD.)  
London, E.C.2.

[126]

### MOTOR VESSELS (Cruiser sterns).

<b>San Adolfo.</b>	'35.	7,400 tons.	<b>San Ambrosio.</b>	'35.	7,400 tons.
<b>San Alberto.</b>	'35.	7,400 tons.	<b>San Andres.</b>	'35.	7,400 tons.
<b>San Alvaro.</b>	'35.	7,400 tons.	<b>San Arcadio.</b>	'35.	7,300 tons.
<b>San Amado.</b>	'35.	7,300 tons.	<b>San Dario.</b>	'18.	1,100 tons.

(Elliptical stern.)

### STEAM SHIPS.

<b>San Casto.</b>	'28.	2,500 tons.	<b>San Roberto.</b>	'22.	5,900 tons.
<b>San Claudio.</b>	'28.	2,700 tons.	<b>San Salvador.</b>	'24.	5,800 tons.
<b>San Fabian.</b>	'22.	13,000 tons.	<b>San Silvestre.</b>	'13.	6,200 tons.
<b>San Felix.</b>	'21.	13,000 tons.	<b>San Tiburcio.</b>	'21.	6,000 tons.
<b>San Fernando.</b>	'19.	13,100 tons.	<b>San Tirso.</b>	'13.	6,200 tons.
<b>San Florentino.</b>	'19.	12,800 tons.	<b>San Ubaldo.</b>	'21.	6,000 tons.
<b>San Gaspar.</b>	'21.	12,900 tons.	<b>San Valerio.</b>	'13.	6,500 tons.
<b>San Leon.</b>	'21.	6,100 tons.	<b>San Zeferino.</b>	'14.	6,400 tons.
<b>San Melito.</b>	'14.	12,400 tons.	<b>San Zotico.</b>	'19.	5,600 tons.
<b>San Quirino.</b>	'23.	5,800 tons.	<b>Shell Mex IV.</b>	'21.	400 tons.
<b>Shell Mex V.</b>	'21.	400 tons.			

## Some Well Known Shipping Companies

EAGLE OIL—(Contd.)

**DISTINGUISHING FEATURES:**—*Hulls* : Black. *Boot-topping* : Red. *Masts, Dericks, Superstructure and Boats* : Buff. *Names* : Nearly all “San” and mostly end in “o.”

**SERVICES.**—*Petroleum Trade.* Between Mexican Gulf ports and U.K. *No Passenger Accommodation.*

### ELDER DEMPSTER LINES LTD. (BRITISH) Liverpool.

[215]

#### PASSENGER SHIPS. (Motor.)

<b>Aba.</b>	'18.	8,000 tons.	<b>Apapa.</b>	'27.	9,300 tons.
<b>Abosso.</b>	'35.	11,000 tons.	<b>Calabar.</b>	'35.	3,000 tons.
<b>Accra.</b>	'26.	9,300 tons.			(Coastal service.)
<b>Adda.</b>	'22.	7,900 tons.			

#### CARGO VESSELS. (Motor.)

(Limited passenger accommodation.)

<b>Alfred Jones.</b>	'30.	3,800 tons.	<b>Dunkwa.</b>	'27.	3,800 tons.
<b>Dagomba.</b>	'28.	3,900 tons.	<b>Edward Blyden.</b>	'30.	3,800 tons.
<b>Daru.</b>	'27.	3,800 tons.	<b>Macgregor Laird.</b>	'30.	3,800 tons.
<b>David Livingstone.</b>	'29.	3,800 tons.	<b>Mary Kingsley.</b>	'30.	3,800 tons.
<b>Deido.</b>	'28.	3,900 tons.	<b>Mary Slessor.</b>	'30.	3,800 tons.
<b>Dixcove.</b>	'27.	3,800 tons.	<b>Mattawin.</b>	'23.	7,000 tons.
		<b>William Wilberforce.</b>	'30.	3,800 tons.	

## Ships and the Sea

ELDER DEMPSTER—(Contd.)

### CARGO VESSELS (Steam).

<b>Bassa.</b>	'18.	5,300 tons.	<b>Eboe.</b>	'12.	4,900 tons.
<b>Bereby.</b>	'18.	5,200 tons.	<b>Egba.</b>	'14.	5,000 tons.
<b>Biafra.</b>	'19.	5,400 tons.	<b>Egori.</b>	'14.	5,000 tons.
<b>Bodnant.</b>	'19.	5,300 tons.	<b>Ilorin.</b>	'20.	800 tons.
<b>Boma.</b>	'20.	5,400 tons.	(Tender.)		
<b>Calgary.</b>	'21.	7,200 tons.	<b>New Brooklyn.</b>	'20.	6,500 tons.
<b>Calumet.</b>	'23.	7,300 tons.	<b>New Brunwsick.</b>	'19.	6,500 tons.
<b>Cochrane.</b>	'21.	7,200 tons.	<b>New Columbia.</b>	'20.	6,600 tons.
<b>Ebani.</b>	'12.	4,900 tons.	<b>New Texas.</b>	'19.	6,600 tons.
		<b>New Toronto.</b>	'19.	6,600 tons.	

**DISTINGUISHING FEATURES:**—*Hulls*: Black (formerly Grey). *Boot-topping*: Red. *Ventilators*: Buff. *Inside of Cows*: Red. *Names*: Mostly West African place names or names of persons prominent in the development of West Africa.

**SERVICES:**—*Mail, Passenger and Cargo*. Liverpool, London, Hull, Cardiff and Continent to West and South-West African ports. New York and Montreal to West and South-West African ports. Liverpool to Montreal, New Orleans and Galveston.

### ELDERS & FYFFES LTD. (BRITISH)

[237]

(FYFFES LINE.)

London, W.C.2.

<b>Aracataca.</b>	'24.	5,400 tons.	<b>Camito.</b>	'15.	6,700 tons.
<b>Ariguani.</b>	'26.	6,700 tons.	<b>Carare.</b>	'25.	6,800 tons.
<b>Barranca.</b>	'06.	4,100 tons.	<b>Casanare.</b>	'24.	5,400 tons.
<b>Bayano.</b>	'17.	6,700 tons.	<b>Cavina.</b>	'24.	6,900 tons.



## Some Well Known Shipping Companies

ELDERS & FYFFES—(Contd.)

<b>Chagres.</b>	'27.	5,400 tons.	<b>Pacuare.</b>	'05.	3,900 tons.
<b>Corrales.</b>	'29.	5,400 tons.	<b>Patia.</b>	'22.	5,400 tons.
<b>Cristales.</b>	'26.	5,400 tons.	<b>Samala.</b>	'28.	5,400 tons.
<b>Manistee.</b>	'20.	5,400 tons.	<b>Sulaco.</b>	'26.	5,400 tons.
<b>Matina.</b>	'29.	5,400 tons.	<b>Tetela.</b>	'26.	5,400 tons.
<b>Mazatec.</b>	'29.	5,500 tons.	<b>Tilapa.</b>	'28.	5,400 tons.
<b>Mopan.</b>	'29.	5,400 tons.	<b>Tortuguero.</b>	'21.	5,400 tons.
<b>Nicoya.</b>	'29.	5,400 tons.	<b>Tucurinca.</b>	'26.	5,400 tons.

**DISTINGUISHING FEATURES:**—*Hulls* : Silver Grey. *Boot-topping* : Red. *Ventilators* : Buff. *Inside of Cowls* : White. *Names* : Spanish or South American place names.  
**SERVICES:**—*First Class Passenger, Mail and Cargo.* Avonmouth, Liverpool, Swansea and Continent to Jamaica, Central America, Barbados, Trinidad, Panama and Costa Rica.

**ELLERMAN LINES LTD. (BRITISH)**  
 (THE CITY LINE LTD.)  
 Glasgow, C.2.

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### PASSENGER SHIPS.

<b>City of Bagdad.</b>	'19.	7,500 tons.	<b>City of Nagpur.</b>	'22.	10,100 tons.
<b>City of Canterbury.</b>	'22.	8,300 tons.	<b>City of Paris.</b>	'22.	10,900 tons.
<b>City of Exeter.</b>	'14.	9,600 tons.	<b>City of Simla.</b>	'21.	9,500 tons.
<b>City of London.</b>	'07.	9,000 tons.	<b>City of Venice.</b>	'24.	8,800 tons.
<b>City of Marseilles.</b>	'13.	8,300 tons.	<b>City of York.</b>	'04.	7,800 tons.

## Ships and the Sea

ELLERMAN—(Contd.)

### CARGO VESSELS.

(Some of which have accommodation for few passengers.)

City of Birmingham.	'17.	5,300 tons.	
City of Delhi.	'25.	7,400 tons.	
City of Dieppe.	'29.	8,000 tons.	(Maier bow.)
City of Mandalay.	'25.	7,000 tons.	
City of Oran.	'15.	7,400 tons.	

SERVICES:—Glasgow and Liverpool to Colombo, Madras and Calcutta, returning to London. Glasgow and Liverpool to Bombay and Karachi. (Joint service with Hall Line.)

(HALL LINE LTD.)

Liverpool.

### PASSENGER SHIPS.

City of Baroda.	'18.	7,100 tons.
City of Cairo.	'15.	8,000 tons.

### CARGO VESSELS.

(Some of which have accommodation for few passengers.)

City of Adelaide.	'20.	6,600 tons.	City of Canton.	'16.	6,700 tons.
City of Auckland.	'15.	8,300 tons.	City of Cardiff.	'18.	5,700 tons.
City of Athens.	'23.	4,600 tons.	City of Christiana.	'21.	4,900 tons.
City of Barcelona.	'30.	5,700 tons.	City of Corinth.	'18.	5,300 tons.
City of Bath.	'26.	5,100 tons.	City of Dundee.	'21.	5,300 tons.
City of Bedford.	'24.	6,400 tons.	City of Dunkirk.	'12.	5,900 tons.
City of Brisbane.	'20.	7,100 tons.	City of Durban.	'21.	5,900 tons.
City of Bristol.	'12.	6,700 tons.	City of Eastbourne.	'23.	5,600 tons.

## Some Well Known Shipping Companies

ELLERMAN—(Contd.)

City of Evansville.	'22.	6,500 tons.	City of Norwich.	'13.	6,700 tons.
City of Florence.	'18.	6,900 tons.	City of Pittsburgh.	'22.	7,400 tons.
City of Glasgow.	'20.	5,300 tons.	City of Rangoon.	'14.	6,600 tons.
City of Guildford.	'19.	5,200 tons.	City of Roubaix.	'28.	7,100 tons.
City of Hankow.	'15.	7,400 tons.	City of Salisbury.	'24.	5,900 tons.
City of Hereford.	'27.	5,100 tons.	City of Shanghai.	'17.	5,800 tons.
City of			City of Singapore.	'23.	6,600 tons.
Johannesburg.	'20.	5,700 tons.	City of Sydney.	'30.	7,000 tons.
City of Khios.	'25.	5,600 tons.	City of Tokio.	'21.	7,000 tons.
City of Kobe.	'24.	4,400 tons.	City of Wellington.	'25.	5,700 tons.
City of Lille(M.V.).	'28.	6,600 tons.	City of Winchester.	'17.	7,100 tons.
City of Lyons.	'26.	7,100 tons.	City of Worcester.	'27.	5,500 tons.
City of Manila.	'16.	7,500 tons.	City of Yokohama.	'22.	7,300 tons.
City of Manchester.	'35.	8,900 tons.	Kioto.	'18.	3,300 tons.
City of Melbourne.	'19.	6,600 tons.	Malatian.	'14.	3,500 tons.
City of Newcastle.	'15.	6,900 tons.	Serbino.	'19.	4,100 tons.
			Volturmo.	'14.	3,400 tons.

SERVICES:—London, Glasgow and Liverpool to Marmagao and Malabar Coast via Suez. Newport, Glasgow and Liverpool to South Africa (in conjunction with Harrison Line). Newport, Glasgow and Liverpool to Port Said, Red Sea ports and East African ports. Middlesbrough and Continent to Rangoon. Indian ports to United Kingdom and Continent.

(ELLERMAN & PAPAYANNI LINES LTD.)

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			Liverpool.		
Algerian.	'24.	2,300 tons.	Assyrian.	'14.	3,000 tons.
Andalusian.	'18.	3,100 tons.	City of Lancaster.	'24.	3,000 tons.

## Ships and the Sea

ELLERMAN—(Contd.)

<b>City of Leicester.</b>	'26.	3,400 tons.	<b>Flaminian.</b>	'17.	2,700 tons.
<b>City of Oxford.</b>	'26.	2,800 tons.	<b>Lesbian.</b>	'23.	2,400 tons.
<b>Darino.</b>	'17.	1,300 tons.	<b>Lisbon.</b>	'20.	2,000 tons.
<b>Destro.</b>	'20.	3,600 tons.	<b>Mardinian.</b>	'19.	2,400 tons.
<b>Dido.</b>	'20.	3,600 tons.	<b>Maronian.</b>	'13.	3,400 tons.
<b>Egyptian.</b>	'20.	2,900 tons.	<b>Oporto.</b>	'28.	2,400 tons.
<b>Estrellano.</b>	'20.	2,000 tons.	<b>Palmella.</b>	'20.	1,600 tons.
<b>Fabian.</b>	'19.	3,100 tons.	<b>Roumelian.</b>	'14.	2,700 tons.

SERVICES:—*Passenger and Cargo.* Liverpool and Swansea to Genoa, Leghorn, Naples, Palermo, Messina, Catania, Dubrovnik, Bari, Ancona, Trieste, Fiume and Venice. Liverpool and Swansea to Gibraltar, Malta, Patras, Pireaus, Volo, Salonica, Smyrna, Constantinople, Bourgas, Varna and Constantza. Liverpool and Swansea to Lisbon and Oporto.

(WESTCOTT & LAURANCE LINE LTD.)  
London, E.C.3.

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<b>Bulgarian.</b>	'04.	2,100 tons.	<b>Castilian.</b>	'19.	3,100 tons.
<b>Cressado.</b>	'13.	1,200 tons.			

SERVICES:—*Cargo.* Leith, Tyne, Antwerp and London to Gibraltar, Malta and Alexandria. Leith, Tyne, Antwerp and London to Piraeus, Salonica, Smyrna, Constantinople, Bourgas, Varna, Constantza, Sulina, Galatz and Braila.

DISTINGUISHING FEATURES (of all above lines):—*Hulls:* Passenger ships, light grey; Cargo ships, darker grey (1935 change from black). *Boot-topping:* Red. *Ventilators:* Lower part buff; upper part white. *Inside of Cowls:* White. *Names:* Mostly "Cities" or races with suffix "Ian." Many ships have short topmasts set "warship" fashion; little rake on funnels.

## Some Well Known Shipping Companies

### FABRE, CYPRIEN. (FRENCH)

[14]

(COMPAGNIE FRANÇAISE DE NAVIGATION À VAPEUR.)  
Formerly Compagnie Générale de Navigation à Vapeur.  
Marseilles.

#### PASSENGER SHIPS.

<b>Banfora.</b>	'14.	9,500 tons.	<b>Providence.</b>	'15.	12,000 tons.
<b>Patria.</b>	'13.	11,900 tons.	<b>Sinaia.</b>	'22.	8,600 tons.
CARGO VESSELS (with passenger accommodation).					
<b>Canada.</b>	'12.	9,700 tons.	<b>Chelma.</b>	'20.	5,000 tons.
	<b>Edea.</b>	'36.	4,900 tons.		

**DISTINGUISHING FEATURES:**—*Hulls*: Black, passenger ships when cruising may have white hulls. *Boot-topping*: Red. *Ventilators*: White. *Inside of Cowls*: Red.  
**SERVICES:**—*Mail, Passenger and Cargo.* Marseilles to Naples, Palermo and New York. Marseilles to Algeria, Palermo, Naples and Monaco. Marseilles to Lisbon, Azores, New York. Marseilles to West Coast of Africa. Marseilles to Alexandria, Beyrouth and Jaffa.

### FEDERAL STEAM NAVIGATION COMPANY LTD. (BRITISH) [184] London, E.C.3.

#### PASSENGER SHIPS.

(These two vessels are actually painted in The New Zealand Shipping Co's colours and are operated by them.)

<b>Rangitata (M.V.).</b>	'29.	16,700 tons.	<b>Roturua.</b>	'11.	10,900 tons.
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## Ships and the Sea

## CARGO VESSELS.

Cambridge.	'16.	10,900 tons.	Kent.	'20.	8,600 tons.
Cornwall.	'20.	10,600 tons.	Middlesex.	'20.	8,600 tons.
Cumberland.	'19.	10,900 tons.	Norfolk.	'18.	10,900 tons.
Dorset (M.V.).	'34.	10,900 tons.	Northumberland.	'15.	11,600 tons.
Durham (M.V.).	'34.	10,900 tons.	Somerset.	'18.	8,800 tons.
Hertford.	'17.	10,900 tons.	Surrey.	'19.	8,800 tons.
Huntingdon.	'20.	11,000 tons.	Westmoreland.	'17.	9,000 tons.

DISTINGUISHING FEATURES:—*Hulls*: Black. *Boot-topping*: Red with white dividing line. *Ventilators*: Black (small vents white). *Inside of Cows*: Red. *Boats*: Some vessels have black-painted boats. *Names*: English "Counties."

SERVICES:—(Outwards) U.K. and U.S.A. to Australia and New Zealand. (Home-wards) Australia and New Zealand to Mediterranean, U.K., Continent and U.S.A.

## FINSKA ANGFAITYGS AKTIEBOLAGET. (FINNISH)

[1]

(FINLAND S.S. Co.)

Helsingfors.

## PASSENGER SHIPS.

Arcturus.	'98.	2,200 tons.	Oihonna.	'98.	1,100 tons.
Ariadne.	'14.	2,400 tons.	Viola.	'93.	300 tons.
Ilmatar.	'29.	2,400 tons.	Von Döbeln.	'76/29.	700 tons.
Wellamo.	'27.	2,000 tons.			

## CARGO VESSELS.

Argo.	'21.	1,800 tons.	Baltic.	'97.	1,100 tons.
Ariel.	'29.	2,200 tons.	Capella.	'88.	1,100 tons.

## Some Well Known Shipping Companies

FINSKA—(Contd.)

Castor.	'06.	1,200 tons.	Ostrobotnia.	'21.	1,300 tons.
Ceres.	'89.	1,000 tons.	Pallas.	'21.	1,400 tons.
Clio.	'97.	1,000 tons.	Patria.	'23.	700 tons.
Fennia.	'97.	1,200 tons.	(Engines aft.)		
Finlandia.	'20.	1,100 tons.	Polaris.	'12.	1,600 tons.
Frej.	'00.	600 tons.	Pollux.	'98.	1,300 tons.
Hektos.	'03.	2,100 tons.	Poseidon.	'99.	800 tons.
Hesperus.	'22.	1,700 tons.	Primula.	'04.	900 tons.
Iris.	'84.	400 tons.	Regulus.	'21.	1,800 tons.
Juno.	'20.	1,300 tons.	Roland.	'22.	1,800 tons.
Lapponia.	'98.	1,200 tons.	Rhea.	'21.	1,400 tons.
Leda.	'08.	1,300 tons.	Sirius.	'29.	2,200 tons.
Leo.	'20.	1,300 tons.	Suomen Neito.	'21.	1,200 tons.
Maud.	'33.	1,400 tons.	Suomen Poika.	'21.	1,200 tons.
Mira.	'98.	800 tons.	Tower Dale.	'21.	5,600 tons.
Norma.	'07.	1,500 tons.	Vega.	'06.	1,000 tons.
Orion.	'35.	2,600 tons.	Vesta.	'89.	1,000 tons.
Virgo.		'06.	1,100 tons.		

**DISTINGUISHING FEATURES:**—*Hulls*: Passenger ships white, cargo ships brown. *Boot-topping*: Red. *Ventilators*: Some black, some brown. *Inside of Cowls*: Red.

*Deck houses*: Brown. *Funnels*: Have cowl tops.

**SERVICES:**—*Passenger and Cargo*. Finland to Hull, Copenhagen, Stettin, Lübeck, Danzig, Gdynia, Tallin (Reval), Stockholm, Antwerp, Rouen, Rotterdam, London and Mediterranean ports. *Cargo only*. Finland to United Kingdom, France, Spain, Italy, Germany, Belgium, Netherlands, Scandinavia, Denmark and Estonia.

Helsingfors to South America. Helsingfors to South Africa.



# Ships and the Sea

## FORENEDE DAMPSKIBS SELSKAB, DET. (DANISH)

[3]

(UNITED SHIPPING CO.)

(DANISH AMERICA LINE.)

(SCANDINAVIAN AMERICAN LINE. Founded 1880.)

Copenhagen.

### MOTOR VESSELS.

Argentina.	'21.	5,400 tons.	Jylland.	'26.	2,800 tons.
Arizona.	'22.	6,400 tons.	Lousiana.	'21.	6,500 tons.
C. F. Tietgen.	'28.	1,800 tons.	Marocco.	'36.	1,500 tons.
California.	'13.	4,600 tons.	Odense.	'24.	600 tons.
Dronning Alexandrine.	'27.	1,900 tons.	Oregon.	'16.	4,800 tons.
England.	'32.	2,800 tons.	Parkeston.	'25.	2,800 tons.
Esbjerg.	'29.	2,800 tons.	Tunis.	'36.	1,600 tons.
Fredericia.	'30.	700 tons.	Vistula.	'30.	1,200 tons.

### STEAM SHIPS.

A. P. Bernstorff.	'13.	2,300 tons.	Botnia.	'91.	1,300 tons.
Aalborghus.	'14.	1,500 tons.	Brasilien.	'21.	5,300 tons.
Aarhus.	'12.	1,600 tons.	Broholm.	'25.	1,300 tons.
Alabama.	'21.	4,600 tons.	Brynhild.	'07.	2,200 tons.
Alexandra.	'31.	1,500 tons.	C. P. A. Koch.	'93.	1,100 tons.
Algarve.	'21.	1,300 tons.	Charkow.	'13.	1,000 tons.
Beira.	'99.	1,300 tons.	Cimbria.	'97.	1,100 tons.
Bellona.	'23.	800 tons.	Dagmar.	'03.	2,500 tons.
Bergenhus.	'22.	1,400 tons.	Delaware.	'19.	2,300 tons.

## Some Well Known Shipping Companies

FORENEDE—(Contd.)

<b>Diana.</b>	'11.	900 tons.	<b>Kong Haakon.</b>	'06.	1,800 tons.
<b>Douro.</b>	'89.	800 tons.	<b>M. G. Melchoir.</b>	'85.	1,000 tons.
<b>Dronning Maud.</b>	'06.	1,800 tons.	<b>Magnus.</b>	'06.	1,300 tons.
<b>Ebro.</b>	'20.	1,100 tons.	<b>Maine.</b>	'05.	2,200 tons.
<b>Egholm.</b>	'24.	1,300 tons.	<b>Margrethe.</b>	'14.	2,400 tons.
<b>Flora.</b>	'09.	1,200 tons.	<b>Maryland.</b>	'21.	4,900 tons.
<b>Frederik VIII.</b>	'13.	11,800 tons.	<b>Minsk.</b>	'11.	1,200 tons.
<b>Frigga.</b>	'22.	1,100 tons.	<b>Nevada.</b>	'17.	3,800 tons.
<b>Frode.</b>	'18.	2,100 tons.	<b>Nidaros.</b>	'90.	1,000 tons.
<b>Garonne.</b>	'99.	1,500 tons.	<b>Niels Ebbesen.</b>	'99.	900 tons.
<b>Georgia.</b>	'20.	2,300 tons.	<b>Odin.</b>	'10.	600 tons.
<b>Gorm.</b>	'16.	2,200 tons.	<b>Olaf.</b>	'97.	1,900 tons.
<b>Halfdan.</b>	'19.	1,400 tons.	<b>Primula.</b>	'96.	1,500 tons.
<b>Harald.</b>	'03.	2,000 tons.	<b>Rhone.</b>	'15.	1,000 tons.
<b>Hebe.</b>	'12.	1,000 tons.	<b>Rota.</b>	'23.	800 tons.
<b>Hellig Olav.</b>	'03.	9,900 tons.	<b>Saga.</b>	'04.	900 tons.
<b>Hindsholm.</b>	'22.	1,500 tons.	<b>Sigrun.</b>	'04.	1,300 tons.
<b>Hroar.</b>	'23.	1,400 tons.	<b>Skjold.</b>	'04.	1,300 tons.
<b>Island.</b>	'15.	1,800 tons.	<b>Sleipner.</b>	'15.	1,000 tons.
<b>Ivar.</b>	'17.	2,100 tons.	<b>Svanhild.</b>	'19.	2,100 tons.
<b>J. C. Jacobsen.</b>	'90.	1,200 tons.	<b>Svanholm.</b>	'22.	1,300 tons.
<b>Jolantha.</b>	'84.	700 tons.	<b>Svava.</b>	'04.	1,200 tons.
<b>Katholm.</b>	'21.	1,500 tons.	<b>Taarnholm.</b>	'05.	1,400 tons.
<b>Kentucky.</b>	'05.	2,100 tons.	<b>Tennessee.</b>	'21.	2,300 tons.
<b>Kjobenhavn.</b>	'18.	1,700 tons.	<b>Thyra.</b>	'23.	1,100 tons.
<b>Knud.</b>	'00.	1,900 tons.	<b>Tjaldur.</b>	'98.	600 tons.
<b>Koldinghus.</b>	'12.	700 tons.			

## Ships and the Sea

FORENEDE—(Contd.)

<b>Tomsk.</b>	'11.	1,200 tons.	<b>Uffe.</b>	'06.	1,900 tons.
<b>Trondjem.</b>	'23.	1,400 tons.	<b>Vidar.</b>	'15.	1,400 tons.
<b>Tula.</b>	'11.	1,300 tons.	<b>Virginia.</b>	'20.	4,100 tons.
<b>Tyr.</b>	'90.	800 tons.	<b>Ydun.</b>	'10.	600 tons.

**DISTINGUISHING FEATURES:**—*Hulls*: Some black, some light grey. *Boot-topping*: Red. *Masts and Derricks*: Light brown or cream. *Ventilators*: Black. *Inside of Cowls*: Red.

**SERVICES:**—*Passenger and Cargo*. Scandinavian and Baltic ports to Canada and United States, East Coast and Gulf ports. Scandinavian ports to Argentine, Brazil, Las Palmas, Teneriffe and Madeira. Danish and Baltic ports to English, Belgian, French, Spanish, Italian and North African ports. Esbjerg to Parkeston Quay (Harwich) daily mail and passenger. Copenhagen to Faroe Islands via Leith, Iceland and Norway. Copenhagen to Danish ports.

### FRAISSINET, COMPAGNIE. (FRENCH)

[20]

(COMPAGNIE MARSEILLAISE DE NAVIGATION À VAPEUR.)

Marseilles.

#### PASSENGER SHIPS.

<b>Cap Corse.</b>	'29.	2,400 tons.	<b>Ile de Beauté.</b>	'30.	2,600 tons.
<b>Corte II.</b>	'11.	1,700 tons.	<b>Pascal Paoli.</b>	'31.	3,200 tons.
<b>Cyros (M.V.).</b>	'28.	2,400 tons.	<b>Sampiero Corso.</b>	'30.	tons.
<b>Fraissinet.</b>	'36.	4,900 tons.	<b>Touareg.</b>	'24.	5,100 tons.
<b>Général Bonaparte.</b>	'22.	2,800 tons.	<b>Ville D'Ajaccio.</b>	'29.	2,400 tons.
<b>Hoggar.</b>	'23.	5,100 tons.			

## Some Well Known Shipping Companies

FRAISSINET—(Contd.)

### CARGO VESSELS (With Passenger Accommodation).

<b>Cap des Palmes</b> (M.V.)	'35.	3,200 tons.	<b>Oueme.</b>	'12.	4,000 tons.
<b>Muirton.</b>	'20.	5,000 tons.	<b>Tombouctou.</b>	'19.	5,300 tons.

**DISTINGUISHING FEATURES:**—*Hulls* : Some black, some white. *Boot-topping* : Red.  
*Ventilators* : White.

**SERVICES:**—*Passenger and Cargo.* Marseilles to Corsica (daily). Marseilles to Constantinople, Bourgas, Constantza, Sulina, Galatz and Braila. Marseilles to Senegal, French Guinea, Sierra Leone, Ivory Coast, Dahomey, Nigerian ports and Cameroons.

### FURNESS LINES (BRITISH)

[58]

(FURNESS, WITHEY & Co., LTD.)

London, E.C.3.

### MOTOR SHIPS.

<b>El Argentino.</b>	'28.	9,500 tons.	<b>Pacific Ranger.</b>	'29.	6,900 tons.
<b>Pacific Grove.</b>	'28.	7,100 tons.	<b>Pacific Shipper.</b>	'24.	6,300 tons.
<b>Pacific President.</b>	'28.	7,100 tons.	<b>Pacific Trader.</b>	'24.	6,300 tons.

### TURBO-ELECTRIC PASSENGER VESSELS.

<b>Monarch of Bermuda.</b>	'31.	22,400 tons.	<b>Queen of Bermuda.</b>	'33.	22,600 tons.
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### STEAMERS.

<b>El Uruguayo.</b>	'11.	8,400 tons.	<b>London Citizen.</b>	'18.	5,400 tons.
<b>La Rosarina.</b>	'12.	8,300 tons.	<b>London Corporation.</b>	'22.	5,400 tons.

## Ships and the Sea

FURNESS—(Contd.)

(JOHNSTON WARREN LINES LTD.)

Incorporating JOHNSTON LINE LTD., NEPTUNE STEAM NAVIGATION CO. LTD.  
(at one time known as Columbia S.N. Co. Ltd.) and WARREN LINE (LIVERPOOL) LTD.  
Liverpool.

### PASSENGER SHIPS.

<b>Newfoundland.</b>	'25.	6,800 tons.	<b>Nova Scotia.</b>	'26.	6,800 tons.
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### CARGO VESSELS.

<b>Aviemore.</b>	'20.	4,100 tons.	<b>Jessmore.</b>	'21.	4,100 tons.
<b>Dromore.</b>	'20.	4,100 tons.	<b>Kenmore.</b>	'23.	3,800 tons.
<b>Incemore.</b>	'21.	4,100 tons.	<b>London Exchange.</b>	'21.	5,400 tons.
		<b>Quernmore.</b>	'23.		3,800 tons.

### (RED CROSS LINE.)

### PASSENGER SHIPS.

<b>Fort Amherst.</b>	'36.	3,500 tons.	<b>Fort Townshend.</b>	'36.	3,500 tons.
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NORFOLK & NORTH AMERICAN STEAM SHIPPING CO. LTD.

(Registered 1893.)

Furness House, Leadenhall Street, London, E.C.3.

### MOTOR SHIPS.

<b>Pacific Enterprise.</b>	'27.	6,700 tons.	<b>Pacific Pioneer.</b>	'28.	6,700 tons.
<b>Pacific Exporter.</b>	'28.	6,700 tons.	<b>Pacific Reliance.</b>	'26.	6,700 tons.

DISTINGUISHING FEATURES (of above lines which all fly the same House Flag and have same funnel):—*Hulls*: Black with exception of "Monarch of Bermuda" and "Queen of Bermuda," which are grey. *Boot-topping*: Red (above two vessels

## Some Well Known Shipping Companies

FURNESS—(Contd.)

have green with a dividing line of white). *Ventilators*: Some white, some black. *Inside of Cowls*: Red. *Names*: Prefix "London" and "Pacific" and suffix "more." *Boats*: The two vessels mentioned above have brown coloured boats. Most of the cargo liners have accommodation for a limited number of passengers. **SERVICES**:—Hull and London/St. John, N.B.,/Halifax, N.S./Hull and London/Montreal (Summer)/Halifax. Liverpool/Halifax, N.S./St. John's, N.F./Boston. Glasgow/Halifax, N.S./St. John's N.F./Boston. Glasgow and Manchester/Los Angeles/San Francisco/Victoria/Vancouver/Seattle/Tacoma/Portland. London/Philadelphia/New York/Halifax (Winter six months). London/Philadelphia/New York (Summer six months). Leith and Dundee/Philadelphia/New York. Antwerp/Swansea/Liverpool/Piraeus, etc./Danube.

## GDYNIA-AMERIKA LINJE ZEGLUGOWE SPÓLKA AKCYJND. (POLISH) [2]

(GDYNIA-AMERICA SHIPPING LINES LTD.)

Warsaw.

### PASSENGER SHIPS (Motor).

<b>Batory.</b>	'36.	14,400 tons.	<b>Pilsudski.</b>	'35.	14,400 tons.
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### PASSENGER SHIPS (Steam).

<b>Kosciuszko.</b>	'15.	6,500 tons.	<b>Polonia.</b>	'10.	7,500 tons.
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<b>Pulaski.</b>	'12.	6,300 tons.
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**DISTINGUISHING FEATURES**:—*Hulls*: Black with white band. *Boot-topping*: Red. *Ventilators*: Buff. *Inside of Cowls*: Green. *Masts and Derricks*: Light brown. **SERVICES**:—*Passenger and Cargo*. Gdynia to Copenhagen, Halifax and New York. Constantza to Istanbul, Jaffa, Haifa and Piraeus. Gdynia to S. America.

# Ships and the Sea

**GENERAL STEAM NAVIGATION CO. LTD., THE.** (BRITISH)

[8]

(G.S.N.C.)

London, E.C.3.

## PASSENGER SHIPS. (Paddle.)

<b>Crested Eagle.</b>	'25.	1,100 tons.	<b>Isle of Arran.</b>	'92.	300 tons.
<b>Golden Eagle.</b>	'09.	800 tons.	<b>Laguna Belle.</b>	'96.	600 tons.
			<b>Royal Eagle.</b>	'32.	1,500 tons.

## CARGO VESSELS. (Some of which have passenger accommodation.)

<b>Adjutant.</b>	'22.	1,900 tons.	<b>Merel.</b>	'25.	1,100 tons.
<b>Albatross.</b>	'24.	1,900 tons.	<b>Philomel.</b>	'35.	2,100 tons.
<b>Cormorant.</b>	'27.	1,200 tons.	<b>Peregrine.</b>	'21.	900 tons.
<b>Falcon.</b>	'27.	1,300 tons.	<b>Roek.</b>	'25.	1,000 tons.
<b>Grebe.</b>	'26.	900 tons.	<b>Starling.</b>	'30.	1,300 tons.
<b>Groningen.</b>	'28.	1,200 tons.	<b>Stork.</b>	'36.	2,100 tons.
<b>Hirondelle.</b>	'25.	900 tons.	<b>Swift.</b>	'30.	900 tons.
<b>Leeuwarden.</b>	'29.	1,200 tons.	<b>Woodcock.</b>	'27.	1,800 tons.
<b>Mavis.</b>	'30.	900 tons.	<b>Woodlark.</b>	'28.	1,500 tons.

## VESSELS (with engines aft).

<b>Alouette.</b>	'20.	600 tons.	<b>Laverock.</b>	'09.	1,200 tons.
<b>Auk.</b>	'20.	1,400 tons.	<b>Oriole.</b>	'21.	500 tons.
<b>Blackcock.</b>	'21.	500 tons.	<b>Ortolan.</b>	'20.	500 tons.
<b>Conifer.</b>	'20.	500 tons.	<b>Petrel.</b>	'20.	1,500 tons.
<b>Fauvette (M.V.).</b>	'35.	600 tons.	<b>Ptarmigan.</b>	'20.	500 tons.
<b>Gannet.</b>	'21.	1,400 tons.	<b>Seamew.</b>	'15.	1,300 tons.
<b>Kingfisher.</b>	'13.	300 tons.	<b>Sheldrake.</b>	'20.	500 tons.
<b>Lapwing.</b>	'20.	1,400 tons.	<b>Teal.</b>	'21.	1,400 tons.



## Some Well Known Shipping Companies

GENERAL STEAM—(Contd.)

**DISTINGUISHING FEATURES:**—*Hulls*: Black with white band except passenger ships which have plain black with top strakes white. (“Royal Eagle” and “Crested Eagle” painted cream 1935 with green boot-topping.) *Boot-topping*: Red (with white dividing line in passenger ships). *Upperworks*: Brown. *Ventilators*: (cargo ships); *Outside*, Black; *Inside*, Red. *Boats*: Blue in cargo ships; brown or white in passenger vessels. *Names*: Mostly names of “Birds.” Passenger ships have buff funnels or buff with narrow black tops. “Isle of Arran” has red funnel with black top.

**SERVICES:**—*Tourist*. London to East Coast ports (in Summer only). *Cargo* (some ships having accommodation for few passengers). U.K. ports to most Continental and Mediterranean Ports.

### GRACE STEAMSHIP CO. INC. (U.S.A.) New York City.

[18]

#### PASSENGER SHIPS (Motor).

<b>Santa Barbara</b>	'28.	8,100 tons.	<b>Santa Inez.</b>	'29.	4,700 tons.
<b>Santa Catalina (M.V.)</b>	'24.	2,400 tons.	<b>Santa Maria.</b>	'28.	8,100 tons.
		<b>Santa Rita.</b>	'29.	4,600 tons.	

#### PASSENGER SHIPS (Steam).

<b>Santa Clara.</b>	'30.	8,200 tons.	<b>Santa Isabel.</b>	'15.	5,600 tons.
<b>Santa Elena.</b>	'32.	9,100 tons.	<b>Santa Lucia.</b>	'33.	9,100 tons.

#### CARGO SHIPS.

<b>Capac.</b>	'19.	5,600 tons.	<b>Condor.</b>	'20.	4,700 tons.
<b>Charcas.</b>	'19.	5,600 tons.	<b>Coya.</b>	'19.	5,000 tons.

## Ships and the Sea

(PANAMA MAIL S.S. Co., INC.)

## PASSENGER SHIPS.

<b>Corinto.</b>	'05.	2,000 tons.	<b>Santa Paula.</b>	'32.	9,100 tons.
<b>Santa Cecilia.</b>	'18.	4,900 tons.	<b>Santa Rosa.</b>	'32.	9,100 tons.
<b>Santa Monica (M.V.)</b>	'24.	2,400 tons.	<b>Santa Teresa.</b>	'18.	4,900 tons.

(NEW ORLEANS &amp; SOUTH AMERICAN S.S. CO. INC.)

<b>Cacique.</b>	'18.	2,700 tons.	<b>Chipana.</b>	'20.	3,300 tons.
<b>Chincha.</b>	'20.	3,200 tons.	<b>Curaca.</b>	'20.	3,300 tons.

DISTINGUISHING FEATURES:—*Hulls*: Black. *Boot-topping*: Red, possibly with white dividing line. *Ventilators*: White. *Inside of Cows*: Red. *Masts and Derricks*: White.

SERVICES:—*Passengers and Cargo*. New York to Colombia, Panama, El Salvador, Guatemala, Mexico and California. (Calling at Havana, East bound.) New York to Panama, Colombia, Ecuador, Peru and Chile. (Calling at Havana North bound.)

## HAMBURG-AMERIKANISCHE PACKETFAHRT ACTIEN GESELLSCHAFT

(HAMBURG-AMERIKA LINIE.) (GERMAN) [30]

(H.A.P.A.G.)

Hamburg.

## PASSENGER SHIPS (Motor).

<b>Caribia.</b>	'32.	12,000 tons.	<b>Milwaukee.</b>	'29.	16,700 tons.
<b>Cordillera.</b>	'33.	12,000 tons.	<b>Orinoco.</b>	'28.	9,700 tons.
<b>Iberia.</b>	'28.	9,800 tons.	<b>St. Louis.</b>	'28.	16,700 tons.

## Some Well Known Shipping Companies

HAMBURG-AMERIKA—(Contd.)

### PASSENGER SHIPS (Steam).

<b>Cobra.</b>	'26.	2,100 tons.	<b>Njassa.</b>	'23.	8,800 tons.
<b>Deutschland.</b>	'23.	21,000 tons.	(May run in Deutsche Ost Afrika colours)		
<b>Hamburg.</b>	'26.	22,100 tons.	<b>Oceana.</b>	'12.	8,800 tons.
<b>Hansa.</b>	'23.	21,100 tons.	<b>Reliance.</b>	'14/20.	19,300 tons.
<b>Kaiser.</b>	'05.	1,900 tons.	<b>Tanganjika.</b>	'22.	8,500 tons.
<b>Konigin Luise.</b>	'35.		(May run in Deutsche Ost Afrika colours)		
<b>New York.</b>	'27.	22,300 tons.	<b>Tannenberg.</b>	'35.	4,000 tons.

### CARGO VESSELS (Motor).

(Most of which have passenger accommodation.)

<b>Anubis.</b>	'22.	5,100 tons.	<b>Osiris.</b>	'22.	4,500 tons.
<b>Assuan.</b>	'23.	5,100 tons.	<b>Palatia.</b>	'28.	4,000 tons.
<b>Burgenland.</b>	'28.	7,300 tons.	<b>Patricia.</b>	'28.	4,000 tons.
<b>Duisburg.</b>	'28.	7,400 tons.	<b>Phoenicia.</b>	'28.	4,100 tons.
<b>Ermland.</b>	'22.	6,500 tons.	<b>Phrygia.</b>	'28.	4,100 tons.
<b>Friesland.</b>	'25.	6,300 tons.	<b>Portland.</b>	'28.	7,100 tons.
<b>Havelland.</b>	'21.	6,300 tons.	<b>Ramses.</b>	'26.	8,000 tons.
<b>Heidelberg.</b>	'25.	6,500 tons.	<b>Rendsburg.</b>	'26.	6,200 tons.
<b>Hermonthis.</b>	'35.	4,700 tons.	<b>Rhakotis.</b>	'28.	6,800 tons.
<b>Isis.</b>	'22.	4,500 tons.	<b>Rhein.</b>	'26.	6,000 tons.
<b>Kulmerland.</b>	'28.	7,400 tons.	<b>Rheinland.</b>	'27.	6,600 tons.
<b>Leverhusen.</b>	'28.	7,400 tons.	<b>Roda.</b>	'28.	6,800 tons.
<b>Magdeburg.</b>	'25.	6,200 tons.	<b>Ruhr.</b>	'25.	6,000 tons.
<b>Munsterland.</b>	'21.	6,400 tons.	<b>Sauerland.</b>	'28.	7,100 tons.
<b>Oakland.</b>	'29.	6,800 tons.	<b>Seattle.</b>	'28.	7,400 tons.
<b>Vogtland.</b>	'24.	7,100 tons.			

## Ships and the Sea

HAMBURG-AMERIKA—(Contd.)

### CARGO VESSELS (Steam).

Abessinia.	'20.	1,600 tons.	Hessen.	'21.	8,100 tons.
Alemania.	'21.	1,400 tons.	Hindenburg.	'21.	7,900 tons.
Alexandria.	'20.	1,600 tons.	Idarwald.	'23.	5,000 tons.
Altona.	'21.	5,900 tons.	Ionia.	'22.	3,100 tons.
Amasis.	'23.	7,100 tons.	Isterlohn.	'22.	3,700 tons.
Ammon.	'22.	7,100 tons.	Itauri.	'22.	6,800 tons.
Antiochia.	'21.	3,100 tons.	Karnak.	'26.	7,200 tons.
Baden.	'22.	8,100 tons.	Kellerwald.	'23.	5,000 tons.
Bayern.	'21.	9,000 tons.	Kreta.	'23.	2,400 tons.
Bitterfeld.	'30.	7,700 tons.	Kurmark.	'30.	7,000 tons.
Bochum.	'22.	6,100 tons.	Kyphissia.	'23.	3,000 tons.
Cassel.	'22.	6,000 tons.	Leuna.	'27.	6,900 tons.
Cerigo.	'22.	1,100 tons.	Livadia.	'22.	3,100 tons.
Dortmund.	'26.	5,100 tons.	Lubeck.	'22.	3,700 tons.
Durazzo.	'22.	1,200 tons.	Luneburg.	'14.	5,800 tons.
Essen.	'22.	5,200 tons.	Mecklenburg.	'21.	7,900 tons.
Feodosia.	'22.	3,100 tons.	Menes.	'26.	5,600 tons.
Frankenwald.	'22.	5,100 tons.	Naumburg.	'20.	5,900 tons.
Freiburg.	'23.	5,200 tons.	Neumark.	'29.	7,900 tons.
Gera.	'23.	5,200 tons.	Niederwald.	'21.	4,500 tons.
Hagen.	'21.	5,900 tons.	Nordmark.	'30.	7,700 tons.
Halle.	'21.	5,900 tons.	Oldenburg.	'23.	8,500 tons.
Hamm.	'21.	5,900 tons.	Oliva.	'21.	7,900 tons.
Hanaus.	'21.	5,900 tons.	Preussen.	'22.	8,200 tons.
Havenstein.	'21.	8,000 tons.	Saarland.	'24.	6,900 tons.

## Some Well Known Shipping Companies

HAMBURG-AMERIKA—(Contd.)

<b>Sachsen.</b>	'22.	8,100 tons.	<b>Tacoma.</b>	'30.	8,300 tons.
<b>Scheer.</b>	'15.	8,100 tons.	<b>Tirpitz.</b>	'22.	8,000 tons.
<b>Sesostriis.</b>	'22.	4,000 tons.	<b>Troja.</b>	'22.	2,400 tons.
<b>Stassfurt.</b>	'30.	7,400 tons.	<b>Uckermark.</b>	'30.	7,000 tons.
<b>Steigerwald.</b>	'21.	4,500 tons.	<b>Vancouver.</b>	'30.	8,300 tons.
<b>Syra.</b>	'23.	2,400 tons.	<b>Wasgenwald.</b>	'22.	5,000 tons.

**DISTINGUISHING FEATURES:**—*Hulls*: Black except “Milwaukee,” “Oceana” and “Reliance” which are white. *Boot-topping*: Red. *Ventilators*: White. *Inside of Cows*: Red. *Masts and Derricks*: Yellowish. On each bow is the coat of arms of Hamburg.

**SERVICES:**—*Passenger, Mail and Cargo.* To East and West coasts of North America, United States and the Gulf, Cuba, Mexico, Central America, West Indies, Cristobal Colon and West coast of Central America and Mexico via Panama, West coast of South America via Panama and Straits of Magellan, Far East. *Passenger and Cargo.* To Netherlands East Indies, Australia via the Cape, the Levant and Pleasure Cruises. *Cargo only.* To Canada, West Indian Islands and South Africa.

## HAMBURG-SÜDAMERIKANISCHE DAMPFSCHIFFFAHRTS GESELLSCHAFT.

(GERMAN) [33]

(HAMBURG SOUTH AMERICAN LINE.)

Bremen.

### PASSENGER SHIPS (Motor).

<b>General Osorio.</b>	'29.	11,600 tons.	<b>Monte Pascoal.</b>	'31.	14,000 tons.
<b>Monte Olivia.</b>	'25.	14,000 tons.	<b>Monte Rosa.</b>	'31.	14,000 tons.
<b>Monte Sarmiento.</b>	'24.	14,000 tons.			

## Ships and the Sea

HAMBURG-SUDAMERIKA—(Contd.)

PASSENGER SHIPS (Steam).					
Antonio Delfino.	'21.	14,000 tons.	General San		
Cap Arcona.	'27.	27,600 tons.	Martin.	'22.	11,300 tons.
Cap Norte.	'22.	14,000 tons.	La Coruña.	'22.	7,500 tons.
España.	'22.	7,500 tons.	Madrid.	'22.	8,800 tons.
General Artigas.	'23.	11,300 tons.	Vigo.	'22.	7,500 tons.
CARGO VESSELS (Motor).					
Bahia.	'27.	4,500 tons.	Pernambuco.	'25.	4,500 tons.
CARGO VESSELS (Steam).					
Alrich.	'27.	5,000 tons.	Münster.	'21.	4,600 tons.
Amassia.	'20.	3,200 tons.	Paraguay.	'20.	4,000 tons.
Berengar.	'11.	5,000 tons.	Parana.	'21.	6,000 tons.
Eifel.	'18.	4,600 tons.	Rapot.	'23.	6,000 tons.
Entrerios.	'23.	5,000 tons.	Rio de Janeiro.	'14.	5,500 tons.
Eupatoria.	'21.	3,200 tons.	Taunus.	'19.	4,600 tons.
Georgia.	'22.	3,000 tons.	Tenerife.	'22.	5,000 tons.
Grandon.	'12.	6,000 tons.	Uruguay.	'22.	5,800 tons.
Hohenstein.	'27.	4,600 tons.	Westerwald.	'21.	4,500 tons.
Holstein.	'11.	5,000 tons.	Witell.	'13.	6,100 tons.
Ludwigshafen.	'23.	6,000 tons.	Witram.	'12.	6,100 tons.

DISTINGUISHING FEATURES:—*Hulls* : Black. *Boot-topping* : Red. *Ventilators* : White. *Inside of Cows* : Red. *Masts* : Extreme tops, white. *Boats* : Some have brown-painted boats.

SERVICES:—*Mail, Passenger and Cargo*. Hamburg to Boulogne, Spain, Portugal, Brazil, Uruguay, Argentine.

## Some Well Known Shipping Companies

**HARRISON, T. & J** (BRITISH)  
(CHARENTE S.S. Co. LTD.)  
Liverpool.

[64]

### PASSENGER SHIPS.

<b>Inanda.</b>	'25.	6,000 tons.	<b>Ongoma.</b>	'13.	5,700 tons.
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### CARGO VESSELS.

(Most of which have passenger accommodation.)

<b>Actor.</b>	'17.	5,500 tons.	<b>Explorer.</b>	'35.	6,200 tons.
<b>Astronomer.</b>	'17.	8,400 tons.	<b>Governor.</b>	'18.	5,600 tons.
<b>Auditor.</b>	'24.	5,400 tons.	<b>Historian.</b>	'24.	5,100 tons.
<b>Chancellor.</b>	'16.	4,600 tons.	<b>Huntsman.</b>	'21.	8,200 tons.
<b>Collegian.</b>	'23.	7,900 tons.	<b>Inventor.</b>	'35.	6,200 tons.
<b>Colonial.</b>	'26.	5,100 tons.	<b>Logician.</b>	'28.	6,000 tons.
<b>Comedian.</b>	'29.	5,100 tons.	<b>Magician.</b>	'25.	5,100 tons.
<b>Contractor.</b>	'30.	6,000 tons.	<b>Merchant.</b>	'34.	4,600 tons.
<b>Counsellor.</b>	'26.	5,100 tons.	<b>Musician.</b>	'19.	4,700 tons.
<b>Craftsman.</b>	'22.	7,900 tons.	<b>Observer.</b>	'28.	5,900 tons.
<b>Custodian.</b>	'28.	5,900 tons.	<b>Patrician.</b>	'17.	5,700 tons.
<b>Defender.</b>	'15.	8,300 tons.	<b>Planter.</b>	'27.	5,900 tons.
<b>Designer.</b>	'28.	5,900 tons.	<b>Politician.</b>	'23.	7,900 tons.
<b>Diplomat.</b>	'21.	8,200 tons.	<b>Rancher.</b>	'27.	5,900 tons.
<b>Director.</b>	'26.	5,100 tons.	<b>Recorder.</b>	'30.	6,000 tons.
<b>Dramatist.</b>	'20.	5,400 tons.	<b>Scholar.</b>	'22.	3,900 tons.



## Ships and the Sea

HARRISON LINE—(Contd.)

<b>Senator.</b>	'17.	3,700 tons.	<b>Tactician.</b>	'28.	6,000 tons.
<b>Specialist.</b>	'17.	4,300 tons.	<b>Traveller.</b>	'22.	4,000 tons.
<b>Statesman.</b>	'23.	7,900 tons.	<b>Wanderer.</b>	'25.	5,100 tons.
		<b>Wayfarer.</b>	'25.	5,100 tons.	

Ships taken over from Leyland Line in 1934.

<b>Atlantian.</b>	'28.	6,500 tons.	<b>Davisian.</b>	'22.	6,400 tons.
<b>Dakarian.</b>	'21.	6,400 tons.	<b>Daytonian.</b>	'22.	6,400 tons.
<b>Darian.</b>	'22.	6,400 tons.	<b>Delilian.</b>	'23.	6,400 tons.
		<b>Dorelian.</b>	'23.	6,400 tons.	

**DISTINGUISHING FEATURES:**—*Hulls* : Black. *Boot-topping* : Pink; below water, red. *Ventilators* : Black round funnel, others white. *Inside of Cowls* : Red. Vessels have very tall “cowl-topped” funnels with no noticeable rake. *Names* : Passenger liners have prefix “In,” a reminder of the old Rennie’s Aberdeen Line. Cargo ships all names of professions or occupations, with exception of “D” class, taken over from Leyland Line.

**SERVICES:**—Liverpool to Calcutta, New Orleans, Galveston, Brazil, British West Indies, Venezuela, Curaçao, Colombia, Cristobal, Central America, Bahamas, Jamaica, Guatemala, Honduras, Belize, Mexico and Charente. Liverpool, Glasgow and Newport to South Africa, Red Sea ports and East Africa. Glasgow to West Indies, Demerara, Jamaica and Mexico. London and Middlesbrough to South Africa.

London and Middlesbrough to West Indies, Demerara and Guianas.

## Some Well Known Shipping Companies

**HENDERSON, P. & CO. (BRITISH)**

[19]

(HENDERSON LINE.)

(BRITISH AND BURMESE STEAM NAVIGATION CO. LTD.)

Glasgow, C.2.

### PASSENGER SHIPS.

<b>Amarapoora.</b>	'20.	8,000 tons.	<b>Kemmendine.</b>	'24.	7,800 tons.
<b>Bhamo.</b>	'08.	5,400 tons.	<b>Pegu.</b>	'21.	8,000 tons.
<b>Burma.</b>	'14.	7,600 tons.	<b>Sagaing.</b>	'25.	8,000 tons.
<b>Chindwin.</b>	'10.	6,400 tons.	<b>Yoma.</b>	'23.	8,200 tons.

### CARGO VESSELS.

<b>Arracan.</b>	'11.	5,500 tons.	<b>Irrawaddy.</b>	'28.	3,900 tons.
<b>Henzada.</b>	'34.	4,200 tons.	<b>Mandalay.</b>	'11.	5,500 tons.
<b>Martaban.</b>	'34.	4,200 tons.			

**DISTINGUISHING FEATURES:**—*Hulls* : Black. *Boot-topping* : Red with white dividing line. *Masts and Derricks* : Grey. *Ventilators* : Grey (except those along-side funnel which are black). *Inside of Cows* : Red. *Names* : Burmese.

**SERVICES:**—*Passenger* (First-class only). Glasgow and Liverpool to Rangoon via Marseilles and Egypt calling at Palma. *Cargo*. Glasgow to Brazil, Canada and U.S.A. United Kingdom to New Zealand.

# Ships and the Sea

**HOLT, ALFRED & COMPANY (BRITISH)**

[127]

("BLUE FUNNEL LINE.")

Liverpool.

(CHINA MUTUAL STEAM NAVIGATION CO. LTD.)

PASSENGER SHIPS. (First Class only.)

<b>Antenor.</b>	'25.	11,200 tons.	<b>Patroclus.</b>	'23.	11,300 tons.
		<b>Ulysses.</b>	'13.	14,700 tons.	

CARGO VESSELS.

(Most of these ships carry a limited number of passengers.)

(Motor.)

<b>Idomeneus.</b>	'26.	7,900 tons.	<b>Memmon.</b>	'31.	7,300 tons.
<b>Maron.</b>	'30.	6,700 tons.	<b>Stentor.</b>	'26.	6,600 tons.

CARGO VESSELS (Steam).

<b>Asphalion.</b>	'24.	6,300 tons.	<b>Laomedon.</b>	'12.	6,700 tons.
<b>Atreus.</b>	'11.	6,700 tons.	<b>Lycaon.</b>	'13.	7,600 tons.
<b>Autolycus.</b>	'22.	7,800 tons.	<b>Meriones.</b>	'22.	7,700 tons.
<b>Demodocus.</b>	'12.	6,600 tons.	<b>Neleus.</b>	'11.	6,700 tons.
<b>Diomed.</b>	'22.	10,400 tons.	<b>Perseus.</b>	'23.	10,300 tons.
<b>Eurylochus.</b>	'12.	5,700 tons.	<b>Philoctetes.</b>	'22.	11,400 tons.
<b>Eurypylus.</b>	'12.	5,800 tons.	<b>Protesilaus.</b>	'10.	9,500 tons.
<b>Ixion.</b>	'12.	10,200 tons.	<b>Rhesus.</b>	'11.	6,700 tons.
		<b>Troilus.</b>	'21.	7,600 tons.	

## Some Well Known Shipping Companies

(OCEAN S.S. Co. LTD.)

PASSENGER SHIPS. (First Class only.)

<b>Aeneas.</b>	'10.	10,100 tons.	<b>Hector.</b>	'24.	11,200 tons.
<b>Anchises.</b>	'11.	10,000 tons.	<b>Nestor.</b>	'13.	14,600 tons.
<b>Ascanius.</b>	'10.	10,000 tons.	<b>Sarpedon.</b>	'23.	11,300 tons.
		<b>Gorgon (M.V.).</b>	'33.	3,500 tons.	

CARGO VESSELS.

(Most of these vessels carry a limited number of passengers.)

(Motor.)

<b>Agamemnon.</b>	'29.	7,900 tons.	<b>Eurymedon.</b>	'24.	6,200 tons.
<b>Ajax.</b>	'31.	7,800 tons.	<b>Medon.</b>	'23.	5,900 tons.
<b>Centaur.</b>	'24.	3,100 tons.	<b>Menestheus.</b>	'29.	7,800 tons.
<b>Clytoneus.</b>	'30.	6,700 tons.	<b>Myrmidon.</b>	'30.	6,400 tons.
<b>Deucalion.</b>	'30.	7,800 tons.	<b>Orestes.</b>	'26.	7,900 tons.
<b>Dolius.</b>	'24.	6,000 tons.	<b>Peisander.</b>	'25.	6,200 tons.
<b>Eurybates.</b>	'28.	6,400 tons.	<b>Prometheus.</b>	'23.	6,300 tons.

CARGO VESSELS (Steam).

<b>Achilles.</b>	'20.	11,400 tons.	<b>Cyclops.</b>	'06.	9,100 tons.
<b>Adrastus.</b>	'23.	7,900 tons.	<b>Eumaeus.</b>	'20.	7,700 tons.
<b>Agapenor.</b>	'14.	7,600 tons.	<b>Euryades.</b>	'13.	5,800 tons.
<b>Antilochus.</b>	'06.	9,100 tons.	<b>Glaucus.</b>	'21.	7,600 tons.
<b>Automedon.</b>	'22.	7,600 tons.	<b>Helenus.</b>	'13.	7,600 tons.
<b>Bellerophon.</b>	'06.	9,000 tons.	<b>Menelaus.</b>	'23.	10,300 tons.
<b>Calchas.</b>	'21.	10,300 tons.	<b>Mentor.</b>	'14.	7,600 tons.

## Ships and the Sea

HOLT—(Contd.)

<b>Phemius.</b>	'21.	7,600 tons.	<b>Teiresias.</b>	'14.	7,600 tons.
<b>Pyrrhus.</b>	'14.	7,600 tons.	<b>Teucer.</b>	'06.	9,100 tons.
<b>Rhexenor.</b>	'22.	8,000 tons.	<b>Theseus.</b>	'08.	6,700 tons.
<b>Talthybius.</b>	'12.	10,200 tons.	<b>Titan.</b>	'06.	9,100 tons.
		<b>Tyndareus.</b>	'16.	11,300 tons.	

**DISTINGUISHING FEATURES:**—*Hulls* : Black. *Boot-topping* : Red. *Ventilators* : Some black and some white. *Inside of Cowls* : Blue. *Davits* : Mostly black. *Names* : Greek mythological heroes. Most ships have a distinct sheer, sit rather low in the water, have raking stem and a very large funnel without any noticeable rake. **SERVICES:**—*Passenger (First-class only) and Cargo*. Liverpool, Glasgow and Continental Ports to Dutch East Indies, China, Japan and British Columbia. Liverpool, Glasgow and Continental Ports to Fremantle, Adelaide, Melbourne, Sydney and Brisbane and return to London, Glasgow and Continent. New York to Far East. New York to Dutch East Indies. U.K. Ports to Straits, Philippines, China, Japan, Korea and Eastern Siberia. Singapore to Java and West Australia.

## ISLE OF MAN STEAM PACKET CO. LTD. (BRITISH) [167]

(ISLE OF MAN LINE.)

Douglas, Isle of Man.

### MAIL AND PASSENGER SHIPS.

<b>Ben-My-Chree.</b>	'27.	2,600 tons.	<b>Mona's Queen.</b>	'34.	2,500 tons.
<b>King Orry.</b>	'13.	1,900 tons.	<b>Peel Castle.</b>	'94.	1,500 tons.
<b>Lady of Mann.</b>	'30.	3,100 tons.	<b>Ramsey Town.</b>	'04.	2,100 tons.
<b>Manx Maid.</b>	'10.	1,500 tons.	<b>Rushen Castle.</b>	'98.	1,700 tons.
<b>Manxman.</b>	'04.	2,000 tons.	<b>Snaefell.</b>	'06.	1,700 tons.
<b>Mona.</b>	'07.	1,200 tons.	<b>Victoria.</b>	'07.	1,700 tons.
<b>Mona's Isle.</b>	'05.	1,700 tons.	<b>Viking.</b>	'05.	2,000 tons.

## Some Well Known Shipping Companies

ISLE OF MAN—(Contd.)

### CARGO VESSELS.

<b>Conister.</b>	'21.	400 tons.	(Engines aft.)
<b>Cushag.</b>	'08.	200 tons.	(Engines aft.)
<b>Peveril.</b>	'29.	800 tons.	(Carries 12 passengers.)

**DISTINGUISHING FEATURES:**—*Hulls* : Black, except “Ben-My-Chree,” “Lady of Mann” and “Mona’s Queen,” which are white. *Boot-topping* : Red with white dividing line except white vessels which have green with black dividing line. *Ventilators* : White. *Inside of Cows*. Red. *Names* : Mostly “Manx” names. Cargo vessels have brown upperworks. *Masts* : White vessels have white masts.

**SERVICES:**—Liverpool to Douglas and Ramsey. Fleetwood to Douglas. Heysham to Douglas. Ardrossan to Douglas and Ramsey. Dublin to Douglas. Belfast to Douglas and Ramsey. Liverpool to Castletown, Port St. Mary and Peel (Cargo only).

### “ITALIA.” (ITALIAN)

[22]

(Combined Fleets:

COSULICH, LLOYD-SABAUDO, NAVIGAZIONE GENERALE ITALIANA (N.G.I.).)

### PASSENGER SHIPS (Motor).

<b>Augustus.</b>	'27.	30,400 tons.	<b>Remo.</b>	'27.	9,800 tons.
<b>Esquilino.</b>	'25.	8,700 tons.	<b>Romolo.</b>	'26.	9,800 tons.
<b>Neptunia.</b>	'32.	19,500 tons.	<b>Saturnia.</b>	'27.	23,900 tons.
<b>Oceania.</b>	'33.	20,000 tons.	<b>Viminale.</b>	'25.	8,700 tons.
<b>Orazio.</b>	'27.	11,700 tons.	<b>Virgilio.</b>	'28.	11,700 tons.
		<b>Vulcania.</b>	'28.	24,000 tons.	

# Ships and the Sea

ITALIA—(Contd.)

## PASSENGER SHIPS (Steam).

<b>Belvedere.</b>	'13.	7,400 tons.	<b>Duilio.</b>	'23.	24,300 tons.
<b>Colombo.</b>	'17.	12,000 tons.	<b>Giulio Cesare.</b>	'21.	21,800 tons.
<b>Conte Biancamano.</b>	'25.	24,400 tons.	<b>Principessa</b>		
			<b>Giovanna.</b>	'23.	8,500 tons.
<b>Conte di Savoia.</b>	'32.	48,500 tons.	<b>Principessa Maria.</b>	'23.	8,500 tons.
<b>Conte Grande.</b>	'28.	25,700 tons.	<b>Rex.</b>	'32.	51,000 tons.
	<b>Roma.</b>		'26.	32,600 tons.	

## CARGO VESSELS.

<b>Alberta.</b>	'22.	6,100 tons.	<b>Ida.</b>	'23.	6,100 tons.
<b>Anna C.</b>	'21.	7,200 tons.	<b>Laura C.</b>	'23.	6,200 tons.
<b>Carignano.</b>	'18.	5,400 tons.	<b>Lucia C.</b>	'22.	6,100 tons.
<b>Clara.</b>	'22.	6,100 tons.	<b>Maria (M.V.).</b>	'23.	6,300 tons.
<b>Dora C.</b>	'22.	5,800 tons.	<b>Sangro.</b>	'25.	6,500 tons.
<b>Giulia (M.V.).</b>	'26.	5,900 tons.	<b>Teresa.</b>	'22.	6,100 tons.

**Tigre.** '84. 2,600 tons.

**DISTINGUISHING FEATURES:**—*Hulls* : Black except “ Duilio ” and “ Giulio Cesare ” which have white with green band. *Boot-topping* : Red with white dividing line except white ships which have red. *Ventilators* : Some white, some brown. *Inside of Cowls* : Red. *Boats* : Some have brown. *Funnels* : Did not originally have black top.

**SERVICES:**—*Mail, Passenger and Cargo.* Genoa to Naples, Gibraltar and New York. Genoa, Nice, Barcelona to Rio de Janeiro, Santos, Montevideo, Buenos Aires. Genoa, Marseilles, Barcelona and Cadiz to Funchal and Central American ports. Genoa, Leghorn, Naples, Messina to Port Said, Suez, Aden, Colombo, Fremantle, Adelaide, Melbourne, Sydney and Brisbane.



## Some Well Known Shipping Companies

### JADRANSKA PLOVIDBA d.d. (YUGO-SLAVIAN) [4] (ADRIATIC NAVIGATION Co.) Susak.

<b>Bakar.</b>	'31.	300 tons.	<b>Prestolonaslednik</b>		
<b>Beograd.</b>	'22.	900 tons.	<b>Pétar.</b>	'31.	1,700 tons.
<b>Bled.</b>	'93.	700 tons.	<b>Rab.</b>	'31.	300 tons.
<b>Bosna.</b>	'99.	500 tons.	<b>Slovenac.</b>	'93.	700 tons.
<b>Jugoslavija.</b>	'33.	1,300 tons.	<b>Sóca.</b>	'07.	500 tons.
<b>Karadjordje.</b>	'13.	1,200 tons.	<b>Split.</b>	'09.	900 tons.
<b>Khin.</b>	'13.	300 tons.	<b>Srbin.</b>	'13.	1,000 tons.
<b>Kosovo.</b>	'09.	900 tons.	<b>Susak.</b>	'88.	400 tons.
<b>Lav.</b>	'12.	200 tons.	<b>Topola.</b>	'22.	300 tons.
<b>Ljubljana.</b>	'04.	900 tons.	<b>Una.</b>	'04.	1,400 tons.
<b>Predsednik</b>			<b>Vardar.</b>	'08.	600 tons.
<b>Kopajtić.</b>	'28.	1,800 tons.	<b>Zagreb.</b>	'02.	800 tons.

**DISTINGUISHING FEATURES:**—*Hulls* : Passenger ships white, cargo ships black.  
*Boot-topping* : Red. *Ventilators* : Some white, some black. *Inside of Cows* :  
Red. *Deck houses* : Sometimes brown.

**SERVICES:**—*Mail, Passenger and Cargo.* All Croatian, Dalmatian ports and Adriatic Islands and to Albania, Greece, and Smyrna.

# Ships and the Sea

## JAVA-CHINA-JAPAN LIJN. (DUTCH)

[6]

(" J.C.J.L.")

Amsterdam.

Batavia, Java, N.E.I.

### PASSENGER SHIPS (Motor).

<b>Tjinegara.</b>	'31.	9,200 tons.	<b>Tjisadane.</b>	'31.	9,200 tons.
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### PASSENGER SHIPS (Steam).

<b>Tjibadak.</b>	'29.	7,800 tons.	<b>Tjileboet.</b>	'18/28.	5,800 tons.
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<b>Tjikarang.</b>	'22.	9,500 tons.	<b>Tjisalak.</b>	'17.	5,800 tons.
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<b>Tjikembang.</b>	'14.	8,000 tons.	<b>Tjisaroea.</b>	'26.	7,100 tons.
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<b>Tjisondari.</b>	'15.	8,000 tons.
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### CARGO VESSELS.

<b>Tjibesar.</b>	'22.	10,800 tons.	<b>Tjikandi.</b>	'21.	8,000 tons.
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<b>Tjimanoeck.</b>	'11.	5,600 tons.
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**DISTINGUISHING FEATURES:**—*Hulls* : Black. *Boot-topping* : Apple-blossom. *Ventilators* : Black. *Inside of Cowls* : Teak colour. *Names* : Javanese names beginning with "Tji," which means river. Many of the vessels have "Twin" or "Goal Post" masts, and names printed in Chinese characters amidships.

**SERVICES:**—Batavia to Samarang, Sourabaya, Makassar, Balikpapan, Yokohama, Nagoya, Kobe, Osaka and Moji, and back to Makassar, Sourabaya and Java ports. Sourabaya to Manila, Hong Kong, Amoy, Shanghai, Chin Wen Tao, Dalny and back to Keelung, Amoy, Hong Kong, Batavia and Java ports. Sourabaya, Samarang and Batavia to Hong Kong, Amoy, Shanghai and back to Amoy, Hong Kong, Manila, Makassar, Bali, Sourabaya and Java ports.

# Some Well Known Shipping Companies

## JUGOSLAVENSKI LLOYD a.d. (YUGO-SLAVIAN) [6] Jugoslavia.

### PASSENGER SHIPS.

<b>Kraljica Marija.</b>	'06.	10,200 tons.	<b>Princesa Olga.</b>	'15.	8,500 tons.
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### CARGO VESSELS.

<b>Aleksandar I.</b>	'27.	5,900 tons.	<b>Marija Racic.</b>	'11.	4,200 tons.
<b>Avala.</b>	'29.	6,400 tons.	<b>Nemanja.</b>	'18.	5,200 tons.
<b>Carica Milica.</b>	'28.	6,400 tons.	<b>Njegos.</b>	'08.	4,400 tons.
<b>Istina.</b>	'10.	3,500 tons.	<b>Preradovic.</b>	'07.	5,300 tons.
<b>Istok.</b>	'13.	5,900 tons.	<b>Tomislav.</b>	'28.	5,400 tons.
<b>Ivo Racic.</b>	'07.	3,700 tons.	<b>Trepca.</b>	'30.	5,100 tons.
<b>Izabran.</b>	'12.	4,300 tons.	<b>Triglav.</b>	'29.	6,400 tons.
<b>Izgled.</b>	'11.	4,300 tons.	<b>Vidovdan.</b>	'06.	5,600 tons.
<b>Izrada.</b>	'10.	3,500 tons.	<b>Vojvoda Putnik.</b>	'16.	5,900 tons.
<b>Marija Petrinović.</b>	'18.	5,700 tons.	<b>Zrinski.</b>	'20.	5,700 tons.

**DISTINGUISHING FEATURES:**—*Hulls* : Black. *Boot-topping* : Red. *Ventilators* : White. *Inside of Cowls* : Blue or Red. *Masts and Derricks* : Light golden brown.

**SERVICES:**—*Passenger and Cargo.* Yugo-Slavian ports to Buenos Aires, Rosario, Santa Fé, Bahia Blanca, Montevideo.

# Ships and the Sea

**KOKUSAI KISEN KABUSHIKI KAISHA.** (JAPANESE)

[6]

(KOKUSAI STEAMSHIP CO. LTD.)

Tokio.

## MOTOR VESSELS.

<b>Kano Maru.</b>	'34.	6,900 tons.	<b>Kirishima Maru.</b>	'31.	6,000 tons.
<b>Kashi Maru.</b>	'36.	7,000 tons.	<b>Kiyosumi Maru.</b>	'34.	7,000 tons.
<b>Katsuragi Maru.</b>	'31.	5,800 tons.	<b>Komaki Maru.</b>	'31.	6,800 tons.
<b>Kinugasa Maru.</b>	'36.	6,800 tons.	<b>Kongo Maru.</b>	'35.	7,000 tons.
		<b>Kurama Maru.</b>	'31.	6,800 tons.	

## STEAM SHIPS.

<b>Aden Maru.</b>	'19.	5,800 tons.	<b>Liverpool Maru.</b>	'19.	5,900 tons.
<b>Atlantic Maru.</b>	'20.	5,900 tons.	<b>Naples Maru.</b>	'19.	5,900 tons.
<b>Belgium Maru.</b>	'20.	5,800 tons.	<b>San Francisco Maru.</b>	'19.	5,800 tons.
<b>Cape Town Maru.</b>	'19.	5,800 tons.	<b>Shanghai Maru.</b>	'19.	4,100 tons.
<b>England Maru.</b>	'19.	5,800 tons.	<b>Sydney Maru.</b>	'19.	4,100 tons.
<b>France Maru.</b>	'19.	5,800 tons.	<b>Tasmania Maru.</b>	'19.	4,100 tons.
<b>Glasgow Maru.</b>	'19.	5,800 tons.	<b>Vancouver Maru.</b>	'19.	5,800 tons.
<b>Hankow Maru.</b>	'19.	4,100 tons.	<b>Victoria Maru.</b>	'21.	5,900 tons.
<b>Hofuku Maru.</b>	'18.	5,800 tons.	<b>Yaye Maru.</b>	'19.	6,800 tons.
<b>Kofuku Maru.</b>	'18.	5,800 tons.	<b>Yuri Maru.</b>	'19.	6,800 tons.

**DISTINGUISHING FEATURES:**—*Hulls* : Black. *Boot-topping* : Red. *Ventilators* : Cream. *Inside of Cows* : Red. *Masts and Derricks* : Cream.

**SERVICES:**—*Passenger and Cargo.* Orient to New York. *Cargo only.* New York and Hamburg to Japan and Australia. Hamburg and New York to Japan and Bombay. Japan to European ports. Japan to African ports. Japan to Formosa.

# Some Well Known Shipping Companies

## KONINKLIJKE NEDERLANDSCHE STOOMBOOT MAATSCHAPPIJ, N.V. [20]

(ROYAL NETHERLANDS S.S. Co.)

(DUTCH)

Amsterdam.

### PASSENGER SHIP (Motor.)

**Colombia.** '30. 10,800 tons.

### PASSENGER SHIPS (Steam).

<b>Alkmaar.</b>	'19.	6,900 tons.	<b>Cottica.</b>	'27.	3,800 tons.
<b>Baarn.</b>	'27.	5,500 tons.	<b>Crijnsen.</b>	'19.	2,300 tons.
<b>Barneveld.</b>	'28.	5,600 tons.	<b>El Libertador.</b>	'29.	1,700 tons.
<b>Bennekom.</b>	'17.	5,800 tons.	<b>Simon Bolivar.</b>	'27.	7,900 tons.
<b>Berenice.</b>	'19.	1,200 tons.	<b>Stuyvesant.</b>	'18.	4,200 tons.
<b>Boskoop.</b>	'27.	5,500 tons.	<b>Van Rensselaer.</b>	'20.	4,200 tons.
<b>Costa Rica.</b>	'10.	8,700 tons.	<b>Venezuela.</b>	'06.	6,400 tons.

### CARGO VESSELS.

(Most of which have passenger accommodation.)

(Motor.)

**Rhea.** '22. 1,400 tons.

### CARGO VESSELS (Steam).

<b>Achilles.</b>	'06.	1,800 tons.	<b>Amor.</b>	'11.	1,300 tons.
<b>Agamemnon.</b>	'14.	1,900 tons.	<b>Ariadne.</b>	'19.	1,200 tons.
<b>Ajax.</b>	'23.	900 tons.	<b>Astrea.</b>	'21.	1,400 tons.
<b>Amazone.</b>	'22.	1,300 tons.	<b>Atlas.</b>	'22.	1,300 tons.

## Ships and the Sea

KONINK. NEDERLAND—(Contd.)

<b>Aurora.</b>	'20.	1,700 tons.	<b>Midas.</b>	'25.	1,000 tons.
<b>Bacchus.</b>	'11.	2,300 tons.	<b>Nereus.</b>	'21.	1,300 tons.
<b>Baralt.</b>	'21.	800 tons.	<b>Nero.</b>	'19.	800 tons.
<b>Bodegraven.</b>	'28.	5,500 tons.	<b>Oberon.</b>	'11.	2,000 tons.
<b>Brion.</b>	'21.	800 tons.	<b>Odysseus.</b>	'22.	1,100 tons.
<b>Calypso.</b>	'11.	2,300 tons.	<b>Oranje Nassau.</b>	'11.	3,700 tons.
<b>Ceres.</b>	'19.	2,700 tons.	<b>Orestes.</b>	'18.	2,700 tons.
<b>Deucalion.</b>	'14.	1,800 tons.	<b>Orion.</b>	'14.	1,700 tons.
<b>Euterpe.</b>	'03.	900 tons.	<b>Orpheus.</b>	'20.	1,000 tons.
<b>Fauna.</b>	'12.	1,300 tons.	<b>Perseus.</b>	'22.	1,300 tons.
<b>Flora.</b>	'21.	1,400 tons.	<b>Pluto.</b>	'05.	1,200 tons.
<b>Ganymedes.</b>	'17.	2,700 tons.	<b>Poseidon.</b>	'21.	1,900 tons.
<b>Hebe.</b>	'16.	1,100 tons.	<b>Saturnus.</b>	'09.	2,700 tons.
<b>Helder.</b>	'20.	3,600 tons.	<b>Stella.</b>	'09.	2,800 tons.
<b>Hercules.</b>	'15.	2,300 tons.	<b>Telamon.</b>	'28.	2,100 tons.
<b>Hermes.</b>	'20.	2,700 tons.	<b>Theseus.</b>	'20.	1,300 tons.
<b>Irene.</b>	'18.	1,200 tons.	<b>Tiberius.</b>	'30.	1,700 tons.
<b>Iris.</b>	'20.	900 tons.	<b>Titus.</b>	'29.	1,700 tons.
<b>Juno.</b>	'08.	1,800 tons.	<b>Trajanus.</b>	'30.	1,700 tons.
<b>Luna.</b>	'22.	1,400 tons.	<b>Triton.</b>	'28.	2,100 tons.
<b>Mars.</b>	'25.	1,600 tons.	<b>Ulysses.</b>	'18.	2,700 tons.
<b>Medea.</b>	'16.	1,300 tons.	<b>Venus.</b>	'07.	1,800 tons.
<b>Merope.</b>	'18.	1,200 tons.	<b>Vesta.</b>	'07.	1,800 tons.
		<b>Vulcanus.</b>	'07.		1,800 tons.

DISTINGUISHING FEATURES:—*Hulls* : Black. *Boot-topping* : Red. *Ventilators* :  
Black. *Inside of Cows* : Red.

## Some Well Known Shipping Companies

KONINK. NEDERLAND—(Contd.)

**SERVICES:—***Passenger, Mail and Cargo.* 1. "Colon Line," Europe to Barbados, Trinidad, La Guiana, Puerto Cabello, Curaçao, Santa Marta, Puerto Colombia, Antigua, Jamaica, Cristobal. 2. "Surinam Line," Europe to Madeira, Surinam, Demerara, Trinidad, Venezuela, Curaçao, Port au Prince, New York. 3. "South Pacific Line," Europe to Curaçao, Panama, Colombia, Ecuador, Peru and Chili. 4. Curaçao to Maracaibo. *Cargo Services.* 1. New York to Venezuela. 2. Curaçao to Guatemala. 3. Curaçao to Antilles. 4. Holland to Baltic, Mediterranean, Adriatic and Black Sea ports.

### KONINKLIJKE PAKETVAART MAATSCHAPPIJ. (DUTCH) [26]

(ROYAL PACKET NAVIGATION CO.)

"K.P.M."

Amsterdam.

#### PASSENGER SHIPS (Motor).

Boiseevain.	'36.	14,000 tons.	Tidore.	'30.	900 tons.
Cremer.	'26.	4,600 tons.	Toba.	'30.	1,000 tons.
Kampar.	'30.	600 tons.	Tobelo.	'30.	1,000 tons.
Loudon.	'13.	1,900 tons.	Toboali.	'30.	1,000 tons.
Maetsuycker.	'35.	tons.	Togian.	'30.	1,000 tons.
Mijer.	'15.	1,900 tons.	Tomohon.	'30.	1,000 tons.
Ophir.	'28.	4,100 tons.	Tomori.	'30.	1,000 tons.
Rokan.	'29.	600 tons.	Toradja.	'30.	1,000 tons.
Ruys.	'36.	14,000 tons.	Tosari.	'30.	1,000 tons.
Tegelberg.	'36.	14,000 tons.	Van Heutsz.	'26.	4,600 tons.



## Ships and the Sea

## PASSENGER SHIPS (Steam).

Alting.	'00.	1,300 tons.	Nieuw Holland.	'28.	11,100 tons.
Barentsz.	'15.	4,700 tons.	Nieuw Zeeland.	'28.	11,100 tons.
Baud.	'03.	2,400 tons.	Op ten Noort.	'26.	6,100 tons.
Bontekoe.	'22.	4,700 tons.	Pahud.	'27.	2,100 tons.
Both.	'31.	2,500 tons.	Patras.	'26.	2,100 tons.
Buyskes.	'10.	1,800 tons.	Pijnacker Hordijk.	'14.	3,000 tons.
Camphuijs.	'03.	2,400 tons.	Plancius.	'23.	6,000 tons.
De Eerens.	'02.	1,100 tons.	Reël.	'31.	2,600 tons.
De Klerk.	'00.	2,000 tons.	Reijniersz.	'08.	1,700 tons.
Duymaer van			Reijnst.	'28.	2,500 tons.
Twist.	'26.	1,000 tons.	Rengat.	'25.	500 tons.
Elout.	'09.	1,800 tons.	Reteh.	'26.	500 tons.
Generaal Michiels.	'28.	1,300 tons.	Rochussen.	'03.	2,400 tons.
Generaal van der			Roggeveen.	'15.	4,700 tons.
Heyden.	'28.	1,200 tons.	Rooseboom.	'26.	1,000 tons.
Generaal van			Rumphius.	'08.	2,500 tons.
Geen.	'28.	1,300 tons.	'sJacob.	'07.	3,000 tons.
Generaal van			Schouten.	'12.	1,800 tons.
Swieten.	'28.	1,300 tons.	Sloet van de		
Generaal			Beele.	'14.	3,000 tons.
Verspyck.	'28.	1,200 tons.	Speelman.	'26.	1,000 tons.
Houtman.	'13.	5,000 tons.	Swaerdecroon.	'08.	1,700 tons.
Janssens.	'35.	tons.	Swartenhondt.	'24.	4,700 tons.
Melchior Treub.	'13.	3,500 tons.	Tasman.	'21.	5,000 tons.
Merak.	'26.	1,800 tons.	Thedans.	'27.	2,100 tons.

## Some Well Known Shipping Companies

KONINK. PAKET—(Contd.)

<b>Valentijn.</b>	'27.	2,100 tons.	<b>Van Lansberge.</b>	'13.	1,900 tons.
<b>Van Cloon.</b>	'11.	4,500 tons.	<b>Van Linschoten.</b>	'10.	3,000 tons.
<b>Van den Bosch.</b>	'03.	2,400 tons.	<b>Van Neck.</b>	'13.	3,000 tons.
<b>Van der Hagen.</b>	'10.	3,000 tons.	<b>Van Noort.</b>	'06.	2,000 tons.
<b>Van der Lijn.</b>	'28.	2,500 tons.	<b>Van Outhoorn.</b>	'27.	2,100 tons.
<b>Van der Wijck.</b>	'21.	2,600 tons.	<b>Van Overstraten.</b>	'12.	4,500 tons.
<b>Van Diemen.</b>	'26.	1,000 tons.	<b>Van Rees.</b>	'14.	3,100 tons.
<b>Van Goens.</b>	'26.	1,000 tons.	<b>Van Reibeeck.</b>	'02.	2,300 tons.
<b>Van Heemskerk.</b>	'09.	3,000 tons.	<b>Van Riemsdijk.</b>	'00.	2,000 tons.
<b>Van Imhoff.</b>	'14.	3,000 tons.	<b>Van Swoll.</b>	'30.	2,100 tons.
		<b>Van Waerwijck.</b>	'10.	3,000 tons.	

## CARGO VESSELS.

(Most of which have passenger accommodation.)

(Motor.)

<b>Batak.</b>	'31.	400 tons.	<b>Makian.</b>	'28.	500 tons.
<b>Bengkalis.</b>	'15.	1,100 tons.	<b>Mampawa.</b>	'28.	500 tons.
<b>Boelongan.</b>	'15.	1,100 tons.	<b>Mandar.</b>	'28.	500 tons.
<b>Dajak.</b>	'28.	200 tons.	<b>Manipi.</b>	'28.	500 tons.
<b>Hebe.</b>	'16.	600 tons.	<b>Mapia.</b>	'30.	600 tons.
<b>Majang.</b>	'28.	500 tons.	<b>Maros.</b>	'30.	600 tons.
<b>Makasser.</b>	'28.	500 tons.	<b>Moesi.</b>	'30.	900 tons.

## CARGO VESSELS (Steam).

<b>Bantam.</b>	'29.	3,300 tons.	<b>Bintoehan.</b>	'21.	1,000 tons.
<b>Belawan.</b>	'29.	1,300 tons.	<b>Blinjoe.</b>	'29.	1,300 tons.
<b>Benkoelen.</b>	'21.	1,000 tons.	<b>Dione.</b>	'20.	600 tons.
<b>Berouw.</b>	'19.	800 tons.	<b>Japara.</b>	'30.	3,300 tons.

## Ships and the Sea

KONINK. PAKET—(Contd.)

Kidoel.	'26.	800 tons.	Sibigo.	'26.	1,600 tons.
Le Maire.	'08.	3,300 tons.	Sibolga.	'19.	1,400 tons.
Lematang.	'15.	2,500 tons.	Sidajoe.	'28.	1,800 tons.
Ombilin.	'16.	5,700 tons.	Sigli.	'20.	1,600 tons.
Palehleh.	'21.	1,200 tons.	Silindoeng.	'24.	1,800 tons.
Palima.	'22.	1,200 tons.	Sinabang.	'27.	1,800 tons.
Palopo.	'22.	1,200 tons.	Singapore.	'12.	600 tons.
Parigi.	'22.	1,200 tons.	Singkara.	'14.	600 tons.
Pasir.	'22.	1,200 tons.	Singkep.	'14.	600 tons.
Rantaupandjang.	'22.	2,500 tons.	Sipirok.	'28.	1,800 tons.
Sawahloento.	'21.	3,100 tons.	Sipora.	'26.	1,600 tons.
Siaoe.	'21.	1,600 tons.	Soerabaya.	'19.	600 tons.
Siberoet.	'27.	1,800 tons.	Stagen.	'19.	2,500 tons.

Van Spilbergen. '08. 3,200 tons.

**DISTINGUISHING FEATURES:**—*Hulls*: Some white, some black. *Boot-topping*: Red. *Ventilators*: Buff. *Inside of Cowls*: Red. *Funnels*: Mostly cowl tops. *Names*: Mostly names of places in Netherlands East Indies, etc., or names of Colonial administrators.

**SERVICES:**—*Passenger and Cargo*. Between all ports and islands of the Netherlands East Indies. Singapore and Java to Australia. Deli and Singapore to South China. Deli to Rangoon. Java to Siam. Saigon to Moluccas. Java to Mauritius and East Africa. Manila, Saigon, Bangkok and Java to Mauritius and South Africa. Saigon and Java to Noumea and South Sea Islands and return via Sydney.

# Some Well Known Shipping Companies

## LAMPORT & HOLT LINE LTD. (BRITISH) Liverpool.

[130]

### MOTOR SHIPS.

Lassell.	'22.	7,400 tons.	Leighton.	'21.	7,400 tons.
	Linnell.		'21.	7,400 tons.	

### STEAMSHIPS.

Balfe.	'20.	5,400 tons.	Marconi.	'17.	7,400 tons.
Balzac.	'20.	5,400 tons.	Millais.	'17.	7,300 tons.
Biela.	'18.	5,300 tons.	Nasmyth.	'19.	6,500 tons.
Bonheur.	'20.	5,300 tons.	Phidias.	'13.	5,600 tons.
Bronte.	'19.	5,300 tons.	Sheridan.	'18.	4,700 tons.
Browning.	'19.	5,300 tons.	Swinburne.	'17.	4,700 tons.
Bruyère.	'19.	5,300 tons.	Vandyck.	'21.	13,200 tons.
Delambre.	'17.	7,000 tons.	(Cruising liner.)		
Lalande.	'20.	7,500 tons.	Voltaire.	'23.	13,200 tons.
Laplace.	'19.	7,300 tons.	(Cruising liner.)		

**DISTINGUISHING FEATURES:**—*Hulls* : Black with white band (band added 1934) with exception of cruising liners which are white. *Boot-topping* : Pink with exception of cruising liners which are blue. *Ventilators* : Some black; some grey, with exception of cruising liners which are all white. *Inside of Cows* : White. *Masts* : White. *Derricks* : Grey with exception of cruising liners which are white. *Names* : Scientists, Dramatists, Painters, etc. *Funnels* : Proportions are: 3/7 blue; 2/7 white; 2/7 black.

## Ships and the Sea

LAMPFORD & HOLT—(Contd.)

SERVICES:—Glasgow and Liverpool to Brazil direct. Glasgow and Liverpool to River Plate direct. Liverpool to Brazil via Portugal. Liverpool to River Plate via Spain. Liverpool to Brazil and River Plate via Spain and Portugal. Antwerp, Middlesbrough and London to River Plate. New York to Brazil and River Plate, calling at West Indies. New York to North Brazil. New York to Central and South Brazil. New York to River Plate. New York to Manchester. River Plate to U.K. and Continent via Canary Islands. River Plate to Boston and New York via Brazil.

PLEASURE CRUISING. *All vessels carry Passengers.*

### LIBERA-TRIESTINA, SOCIETÀ ANONIMA, NAVIGAZIONE,

[15]

(N.L.T.)

(ITALIAN)

Trieste.

#### PASSENGER SHIP.

**California.**                      '20.                      13,000 tons.

#### CARGO VESSELS.

(Most of which have passenger accommodation.)

(Motor.)

<b>Cellina.</b>	'26.	6,100 tons.	<b>Feltre.</b>	'27.	6,100 tons.
<b>Fella.</b>	'26.	6,100 tons.	<b>Leme.</b>	'25.	8,100 tons.
		<b>Rialto.</b>		'27.	6,100 tons.

#### CARGO VESSELS (Steam).

<b>Anfora.</b>	'22.	5,800 tons.	<b>Brenta.</b>	'20.	5,400 tons.
<b>Arsa.</b>	'21.	5,400 tons.	<b>Carnia.</b>	'23.	5,800 tons.
<b>Aussa.</b>	'21.	5,700 tons.	<b>Carso.</b>	'23.	6,300 tons.

## Some Well Known Shipping Companies

LIBERA-TRIESTINA—(Contd.)

<b>Cherca.</b>	'20.	5,400 tons.	<b>Perla.</b>	'26.	5,700 tons.
<b>Duchessa d'Aosta.</b>	'21.	7,900 tons.	<b>Piave.</b>	'21.	7,600 tons.
<b>Edda.</b>	'24.	6,100 tons.	<b>Recca.</b>	'21.	5,400 tons.
<b>Isarco.</b>	'24.	5,900 tons.	<b>Rosandra.</b>	'21.	8,000 tons.
<b>Isonzo.</b>	'21.	5,400 tons.	<b>Sabbia.</b>	'26.	5,800 tons.
<b>Istria.</b>	'21.	5,400 tons.	<b>Savoia.</b>	'22.	5,800 tons.
<b>Laguna.</b>	'13.	5,400 tons.	<b>Sistiana.</b>	'24.	5,800 tons.
<b>Livenza.</b>	'22.	5,600 tons.	<b>Tagliamento.</b>	'22.	5,500 tons.
<b>Maiella.</b>	'13.	5,500 tons.	<b>Timavo.</b>	'20.	7,500 tons.

**DISTINGUISHING FEATURES:**—*Hulls* : Black. *Boot-topping* : Red. *Ventilators* : Yellow. *Inside of Cows* : Blue. *Masts and Derricks* : Yellow. *Funnels* : Have cowl tops. *House Flag* : Square.

**SERVICES:**—*Mail, Passenger and Cargo.* Italy to South Africa via Gibraltar and homewards via Suez. Italy (reverse of above). Italy to West Africa and South Africa. Italy to North Pacific ports. Italy to Mexico.

### LLOYD TRIESTINO. (ITALIAN)

[3 and 14]

Combined Fleets of LLOYD TRIESTINO, SOCIETÀ ITALIANA DI SERVIZI  
MARITTIMI "SITMAR", and the SOCIETÀ MARITTIMA ITALIANA.  
Trieste and Genoa.

#### PASSENGER SHIPS (Motor).

<b>Caldea.</b>	'27.	2,700 tons.	<b>Egeo.</b>	'27.	3,200 tons.
<b>Calitea.</b>	'33.	4,000 tons.	<b>Egitto.</b>	'27.	3,200 tons.
<b>Victoria.</b>	'31.	13,100 tons.			

# Ships and the Sea

LLOYD TRIESTINO—(Contd.)

## PASSENGER SHIPS (Steam).

Abbazia.	'12.	3,700 tons.	Esperia.	'18.	11,400 tons.
Adria.	'14.	3,700 tons.	Galilea.	'18.	8,000 tons.
Amazzonia.	'16.	7,000 tons.	Gerusalemme.	'20.	8,100 tons.
Aventino.	'07.	3,800 tons.	Helouan.	'12.	7,200 tons.
Campidoglio.	'10.	3,700 tons.	Italia.	'05.	5,200 tons.
Carnaro.	'13.	3,700 tons.	Marco Po'lo.	'12.	12,300 tons.
Celio.	'08.	3,900 tons.	Merano.	'09.	3,700 tons.
Cilicia.	'27.	2,700 tons.	Palestina.	'16.	7,000 tons.
Conte Rosso.	'22.	17,900 tons.	Praga.	'08.	3,700 tons.
Conte Verde.	'23.	18,800 tons.	Tevere.	'12.	8,400 tons.
Dalmatia L.	'03.	3,300 tons.	Urania.	'16.	7,000 tons.
Diana.	'23.	3,300 tons.	Vesta.	'23.	3,400 tons.
Vienna.		'11.	7,200 tons.		

## CARGO VESSELS.

(Most of which have passenger accommodation.)  
(Motor.)

Arabia.	'26.	7,000 tons.	Himalaya.	'29.	6,200 tons.
Assiria.	'28.	2,700 tons.	India.	'26.	6,400 tons.
Fusijama.	'29.	6,200 tons.	Sumatra.	'27.	6,100 tons.

## CARGO VESSELS (Steam).

Albano.	'18.	2,400 tons.	Fenicia.	'19.	2,600 tons.
Bolsena.	'18.	2,400 tons.	Iseo.	'18.	2,400 tons.
Quirinale.		'07.	3,800 tons.		



## Some Well Known Shipping Companies

LLOYD TRIESTINO—(Contd.)

**DISTINGUISHING FEATURES:**—*Hulls* : Black except for “Conte Rosso,” “Conte Verde,” “Victoria,” “Ausonia,” “Esperia,” “Gange,” “Calitea,” “Vienna,” “Helouan,” “Tevere,” “Palestina,” “Urania,” “Gerusalemme,” “Galilea,” “Carnaro,” “Pilsna,” which have white, with blue band. *Boot-topping* : Red except for white ships which have green. *Masts and Derricks* : All white. *Ventilators* : Black round funnel for black ships, yellow for white ships; white all others. *Inside of Cows* : Grey. *Boats* : Brown in “Victoria,” “Ausonia,” “Calitea,” “Esperia,” “Palestina.”

**SERVICES:**—*Mail, Passenger and Cargo.* Trieste and Venice to Adriatic, Mediterranean ports, Egypt, Black Sea, China and Japan.

**MARITIME BELGE (LLOYD ROYAL) S.A., COMPAGNIE.** (BELGIAN) [2 and 3]  
Comprising: COMPAGNIE MARITIME BELGE DU CONGO & LLOYD ROYAL BELGE S.A.  
Antwerp.

### PASSENGER SHIPS.

Albertville.	'28.	10,800 tons.	Elisabethville.	'21.	8,400 tons.
Anversville.	'12.	8,400 tons.	Leopoldville.	'29.	11,300 tons.
		Thysville.	'22.	8,400 tons.	

### CARGO VESSELS.

Astrida.	'29.	3,400 tons.	Indier.	'18.	5,400 tons.
Carlier.	'15.	7,200 tons.	Jean Jadot.	'29.	5,900 tons.
Eglantier.	'18.	5,400 tons.	Josephine Charlotte.	'29.	3,400 tons.
Emile Francqui.	'29.	5,800 tons.	Kabalo.	'17.	5,200 tons.
Henri Jaspas.	'29.	5,800 tons.	Kabinda.	'17.	5,200 tons.

## Ships and the Sea

MARITIME BELGE—(Contd.)

<b>Kambove.</b>	'18.	5,300 tons.	<b>Maniema.</b>	'20.	3,100 tons.
<b>Kasongo.</b>	'18.	5,300 tons.	<b>Matadi.</b>	'19.	3,100 tons.
<b>Katanga.</b>	'17.	5,200 tons.	<b>Mateba.</b>	'19.	2,900 tons.
<b>Londonier.</b>	'19.	5,400 tons.	<b>Mayumbe.</b>	'29.	3,600 tons.
<b>Macedonier.</b>	'21.	5,200 tons.	<b>Mercier.</b>	'15.	7,900 tons.
<b>Mahagi.</b>	'28.	3,300 tons.	<b>Olympier.</b>	'20.	5,300 tons.
<b>Makala.</b>	'19.	3,100 tons.	<b>Persier.</b>	'18.	5,400 tons.
<b>Mambika.</b>	'20.	3,100 tons.	<b>Pionier.</b>	'19.	5,200 tons.

DISTINGUISHING FEATURES:—*Hulls* : Light Grey. *Boot-topping* : Red. *Masts and Derricks* : Light mast-colour. *Ventilators* : Buff. *Names* : Passenger ships end in " Ville ", all L.R.B. Ships and names ending in " ier ", remainder have African names.

SERVICES:—*Mail, Passenger and Cargo.* Antwerp to New York, Brazil, Uruguay and Argentine. Antwerp to Belgian Congo via West Coast of Africa. Antwerp to Beira via East Coast of Africa and Suez.

## MATSON NAVIGATION CO. (U.S.A.)

[31]

San Francisco.

### PASSENGER SHIPS.

<b>Makawao.</b>	'21.	3,300 tons.	<b>Mana.</b>	'20.	3,300 tons.
<b>Makiki.</b>	'17.	6,100 tons.	<b>Manini.</b>	'20.	3,300 tons.
<b>Makua.</b>	'20.	3,500 tons.	<b>Mauna Ala.</b>	'18.	6,500 tons.
<b>Mala.</b>	'20.	3,500 tons.	<b>Mauna Kea.</b>	'19.	6,100 tons.
<b>Malama.</b>	'19.	3,300 tons.	<b>Maunalei.</b>	'21.	7,200 tons.
<b>Maliko.</b>	'18.	6,800 tons.	<b>Mauna Loa.</b>	'19.	5,400 tons.
<b>Malolo.</b>	'27.	17,200 tons.	<b>Maunawili.</b>	'21.	7,400 tons.

## Some Well Known Shipping Companies

MATSON—(Contd.)

### PASSENGER SHIPS (Engines aft).

<b>Manhukona.</b>	'19.	2,500 tons.	<b>Manukai.</b>	'21.	9,500 tons.
<b>Makaweli.</b>	'19.	2,600 tons.	<b>Manulani.</b>	'21.	9,600 tons.
<b>Makena.</b>	'19.	2,700 tons.	<b>Matsonia.</b>	'13.	9,400 tons.
<b>Manoa.</b>	'13.	6,800 tons.	<b>Maui.</b>	'17.	9,800 tons.

**Wilhelmina.** '09. 6,700 tons.

DISTINGUISHING FEATURES:—*Hulls* : Dark brown. *Boot-topping* : Red with white dividing line. *Ventilators* :

SERVICES:—San Francisco, Seattle and Portland to Honolulu, Hilo, and Kaluiliu.

(THE OCEANIC STEAMSHIP Co.)

[30]

### PASSENGER SHIPS.

<b>Lurline.</b>	'32.	18,000 tons.	<b>Mariposa.</b>	'31.	18,000 tons.
<b>Monterey.</b>	'32.	18,000 tons.			

DISTINGUISHING FEATURES:—*Hulls* : White with blue band. *Boot-topping* : Green. *Ventilators* : Buff. *Inside of Cowls* : Blue. *Masts and Derricks* : Cream.

SERVICES:—*Passenger and Cargo*. San Francisco, Honolulu, Pago Pago, Suva, and Sydney.

## MESSAGERIES MARITIMES, COMPAGNIE DES (FRENCH) [2 and 18]

AND

SOCIÉTÉ DES SERVICES CONTRACTUELS DES MESSAGERIES MARITIMES.

Marseilles.

### MAIL VESSELS (Motor).

<b>Aramis.</b>	'32.	17,500 tons.	<b>Maréchal Joffre.</b>	'31.	11,800 tons.
<b>Felix Roussel.</b>	'30.	16,800 tons.	<b>President Doumer.</b>	'34.	12,790 tons.
<b>Jean Laborde.</b>	'30.	11,400 tons.	<b>Theophile Gautier.</b>	'26.	8,200 tons.

## Ships and the Sea

MESSAGERIES MARITIMES—(Contd.)

### MAIL VESSELS (Steam).

<b>André Lebon.</b>	'13.	13,700 tons.	<b>Compiègne.</b>	'23.	10,000 tons.
<b>Angers.</b>	'07.	9,800 tons.	<b>D'Artagnan.</b>	'24.	15,100 tons.
<b>Athos II.</b>	'25.	15,200 tons.	<b>Explorateur</b>		
<b>Azay-le-Rideau.</b>	'10.	8,000 tons.	<b>Grandidier.</b>	'24.	11,300 tons.
<b>Bernardin de St.</b>			<b>Général Metzinger.</b>	'06.	9,300 tons.
<b>Pierre.</b>	'25.	10,100 tons.	<b>Lamartine.</b>	'14.	5,100 tons.
<b>Champollion.</b>	'24.	12,300 tons.	<b>Leconte de Lisle.</b>	'22.	9,900 tons.
<b>Chantilly.</b>	'23.	10,000 tons.	<b>Mariette Pacha.</b>	'25.	12,500 tons.
<b>Chenonceaux.</b>	'22.	14,800 tons.	<b>Pierre Loti.</b>	'13.	5,100 tons.
<b>Claude Chappe.</b>	'09.	4,400 tons.	<b>Porthos.</b>	'14.	12,700 tons.
	<b>Sphinx.</b>		'14.	11,400 tons.	

### INTERMEDIATE PASSENGER SHIPS.

(Motor).

<b>Eridan.</b>	'28.	9,900 tons.
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(Steam.)

<b>Bucephale.</b>	'25.	900 tons.	<b>Lapérouse.</b>	'11.	4,900 tons.
<b>Commissaire</b>			<b>Ville d'Amiens.</b>	'24.	7,000 tons.
<b>Ramel.</b>	'12.	10,100 tons.			
<b>Esperance</b>			<b>Ville de Strasbourg.</b>	'20.	7,100 tons.
(Twin masts).	'23.	5,100 tons.	<b>Ville de Verdun.</b>	'21.	7,000 tons.

CARGO VESSELS (some of which have passenger accommodation).

<b>Capitaine Faure.</b>	'18.	8,100 tons.
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## Some Well Known Shipping Companies

MESSAGERIES MARITIMES—(Contd.)

Commandant Dorise.	'17.	5,500 tons.
Commandant Mages.	'17.	5,800 tons.
Docteur Pierre Benoit.	'18.	7,900 tons.
Lieutenant de la Tour.	'17.	5,700 tons.
Lieutenant		
St. Loubert Bie.	'11.	6,100 tons.
Maréchal Gallieni.	'12.	1,600 tons.
Min.	'13.	7,900 tons.
Si Kiang.	'14.	6,900 tons.
Yalou.	'14.	8,700 tons.
Yang-Tse.	'15.	8,000 tons.

**DISTINGUISHING FEATURES:**—*Hulls* : Black except "Aramis," which is white. *Boot-topping* : Green. *Masts and Derricks* : White. *Ventilators* : Black. *Inside of Cows* : White. Distinctive white-painted deck cranes.

**SERVICES:**—*Mail, Passenger and Cargo.* From Marseilles to Egypt and Mediterranean ports, Ceylon, Straits, Far East, East Africa, Madagascar, Mauritius and Australasia (latter temporarily suspended).

## MITSUI BUSSAN KAISHA, LTD. (JAPANESE)

Tokio.

[4]

### MOTOR VESSELS.

Akagisan Maru.	'24.	4,600 tons.	Asahaisan Maru.	'35.	4,500 tons.
Akasisan Maru.	'35.	4,600 tons.	Asosan Maru.	'35.	6,500 tons.
Akbasan Maru.	'35.	6,400 tons.	Awobasan Maru.	'35.	6,400 tons.
Hakonesan Maru.	'29.	6,700 tons.			

## Ships and the Sea

MITSUI—(Contd.)

<b>Hakubasan Maru.</b>	'29.	6,700 tons.	<b>Nasusan Maru.</b>	'31.	4,400 tons.
<b>Koyasan Maru.</b>	'27.	2,000 tons.	<b>Oshima Maru.</b>	'34.	1,000 tons.
<b>Kuramasan Maru.</b>	'27.	2,000 tons.	(Tanker.)		
<b>Nachisan Maru.</b>	'31.	4,300 tons.	<b>Shikisan Maru.</b>	'25.	4,700 tons.
<b>Nagisan Maru.</b>	'31.	4,400 tons.	<b>Takamisan Maru.</b>	'28.	2,000 tons.
		<b>Tatsutasan Maru.</b>	'28.	2,000 tons.	

## STEAM SHIPS.

<b>Akibasan Maru.</b>	'24.	4,700 tons.	<b>Sancho Maru.</b>	'18.	1,200 tons.
<b>Hoyeisan Maru.</b>	'18.	6,000 tons.	<b>Sanjin Maru.</b>	'19.	2,500 tons.
<b>Ibukisan Maru.</b>	'22.	5,800 tons.	<b>Sanko Maru.</b>	'19.	600 tons.
<b>Iwatesan Maru.</b>	'21.	5,800 tons.	<b>Santen Maru.</b>	'18.	1,200 tons.
<b>Kasugasan Maru.</b>	'25.	2,400 tons.	<b>Tone Maru.</b>	'20.	4,100 tons.
<b>Katsuragisan Maru.</b>	'25.	2,400 tons.	<b>Building (Tanker).</b>	'35.	
		Building (Tanker).			
		'35.			

**DISTINGUISHING FEATURES:**—*Hulls* : Black; some with white band. *Boot-topping* : Red. *Ventilators* : White. *Inside of Cows* : Red. *Masts and Derricks* : White.

*Paintwork* : Letters M.B.K. in white along side of hulls.

**SERVICES:**—*Cargo*. China and Japan to United States Pacific ports. Japan, China. Philippine Islands, Straits Settlements, Netherlands East Indies, British India. Australia, South America, Europe and Africa.

## Some Well Known Shipping Companies

### MIXTE, COMPAGNIE DE NAVIGATION (COMPAGNIE TOUACHE) (FRENCH) [9] Marseilles.

#### PASSENGER SHIPS.

<b>El-Djezair.</b>	'34.	5,200 tons.
<b>El-Kantara.</b>	'32.	5,100 tons.
<b>El-Mansour.</b>	'32.	5,000 tons.
(Operated on behalf of French Government.)		
<b>Gouverneur Général Cambon.</b>	'22.	3,500 tons.
<b>Gouverneur Général Lepine.</b>	'23.	3,500 tons.
<b>Gouverneur Général Tirman.</b>	'22.	3,500 tons.

#### CARGO VESSELS (most of which have passenger accommodation).

<b>Djebel-Amour.</b>	'31.	2,900 tons.
<b>Djebel-Aures.</b>	'29.	2,800 tons.
<b>Djebel-Dira.</b>	'30.	2,800 tons.
<b>El-Biar.</b>	'27.	4,500 tons.
<b>Mécanicien Moutte.</b>	'18.	1,600 tons.
<b>Mustapha II.</b>	'12.	3,500 tons.

#### (SOCIÉTÉ ANONYME MAZOUT TRANSPORTS.)

<b>C.I.P.</b>	'21.	6,600 tons.	(Tanker with engines aft.)
<b>Motrix.</b>	'22.	6,600 tons.	(Tanker with engines aft.)

#### (SOCIÉTÉ PETROLES TRANSPORTS.)

<b>Capitaine Damiani.</b>	'21.	4,900 tons.	(Tanker with engines aft.)
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DISTINGUISHING FEATURES:—*Hulls* : Black. *Boot-topping* : Red. *Ventilators* :  
Some black, some white.

SERVICES:—*Mail, Passenger and Cargo.* Between Marseilles and ports in Northern Africa.



## Ships and the Sea

### NEDERLANDSCH-AMERIKAANSCHЕ STOOMVAART MAATSCHAPPIJ. [24]

(HOLLAND-AMERIKA LIJN.)

(DUTCH)

(HOLLAND AMERICA LINE.)

“ N.A.S.M.”

#### MAIL LINERS.

Rotterdam.	'08.	24,100 tons.	Veendam.	'23.	15,500 tons.
Statendam.	'29.	28,300 tons.	Volendam.	'22.	15,400 tons.

#### INTERMEDIATE LINERS.

Edam.	'21.	8,900 tons.	Maasdam.	'21.	8,800 tons.
Leerdam.	'21.	8,900 tons.	Spaarndam.	'22.	8,900 tons.

#### CARGO LINERS.

(Most of these vessels carry passengers.)

Beemsterdijk.	'22.	6,900 tons.	Breedijk.	'21.	6,900 tons.
Bilderdijk.	'22.	6,900 tons.	Burgerdijk.	'21.	6,900 tons.
Binnendijk.	'21.	6,900 tons.	Damsterdijk (M.V.).	'30.	10,200 tons.
Bloomersdijk.	'22.	6,900 tons.	Delftdijk (M.V.).	'29.	10,200 tons.
Boschdijk.	'22.	6,900 tons.	Dinteldijk (M.V.).	'22.	9,400 tons.
Drechtdijk (M.V.).		'23.	9,300 tons.		

**DISTINGUISHING FEATURES:**—*Hulls* : Black with gold band. *Boot-topping* : Red. *Ventilators* : Buff. *Inside of Cowls* : Red. *Crow's Nests* : White. *Names* :

Passenger Liners names end in “ am.” Cargo Liners names end in “ dijk.”

**SERVICES:**—*Mail and Passenger.* Rotterdam to New York via Boulogne and Plymouth. Rotterdam to Cuba, Mexico via Antwerp and Boulogne, Bilbao, La Coruña, Havana, Vera Cruz, Tampico and New Orleans. *Freight Services.* Rotterdam,

## Some Well Known Shipping Companies

N.A.S.M.—(Contd.)

Hamburg, Antwerp, English and French ports to North American Pacific Coast ports,  
North American Atlantic Coast ports, Rotterdam, Hamburg, Antwerp, English and  
French ports to British Indian ports via Suez.

### “**NEDERLAND**” **STOOMVAART MAATSCHAPPIJ.** (Dutch) [27] (NEDERLAND ROYAL MAIL LINE.) (ROYAL DUTCH MAIL.)

#### MAIL LINERS (Motor).

<b>Christiaan Huygens.</b>	<b>'27.</b>	<b>15,700 tons.</b>
<b>Johan Van Oldenbarnevelt.</b>	<b>'30.</b>	<b>19,000 tons.</b>
<b>Marnix Van Sint Aldegonde.</b>	<b>'30.</b>	<b>19,100 tons.</b>

#### MAIL LINERS (Steam).

<b>Jan Pieterszoon Coen.</b>	<b>'15.</b>	<b>11,100 tons.</b>
<b>Johan de Witt.</b>	<b>'20.</b>	<b>10,500 tons.</b>

#### CARGO LINERS (Most of which carry passengers). (Motor).

<b>Bintang.</b>	<b>'16.</b>	<b>6,500 tons.</b>	<b>Salawati.</b>	<b>'20.</b>	<b>6,600 tons.</b>
<b>Madoera.</b>	<b>'22/34.</b>	<b>9,400 tons.</b>	<b>Saparoea.</b>	<b>'20.</b>	<b>6,700 tons.</b>
<b>Manoeran.</b>	<b>'22/34.</b>	<b>7,200 tons.</b>	<b>Tabian.</b>	<b>'30.</b>	<b>8,200 tons.</b>
<b>Mapia.</b>	<b>'23/34.</b>	<b>7,200 tons.</b>	<b>Tabinta.</b>	<b>'30.</b>	<b>8,200 tons.</b>
<b>Poelau-Bras.</b>	<b>'29.</b>	<b>9,300 tons.</b>	<b>Tajandoen.</b>	<b>'31.</b>	<b>8,200 tons.</b>
<b>Poelau-Laut.</b>	<b>'28.</b>	<b>9,300 tons.</b>	<b>Talisse.</b>	<b>'30.</b>	<b>8,200 tons.</b>
<b>Poelau-Roebiah.</b>	<b>'28.</b>	<b>9,300 tons.</b>	<b>Tanimbar.</b>	<b>'30.</b>	<b>8,200 tons.</b>
<b>Poelau-Tello.</b>	<b>'29.</b>	<b>9,300 tons.</b>	<b>Tarakan.</b>	<b>'30.</b>	<b>8,200 tons.</b>
<b>Tawali.</b>	<b>'31.</b>	<b>8,200 tons.</b>			

## Ships and the Sea

NEDERLAND—(Contd.)

### CARGO LINERS (Steam).

<b>Bengkalis.</b>	'18.	6,500 tons.	<b>Saleier.</b>	'20.	6,600 tons.
<b>Enggano.</b>	'20.	5,400 tons.	<b>Simaloer.</b>	'20.	6,600 tons.
<b>Moena.</b>	'23.	9,400 tons.	<b>Singkep.</b>	'22.	6,600 tons.
<b>Salabangka.</b>	'20.	6,600 tons.	<b>Soemba.</b>	'23.	6,800 tons.

**DISTINGUISHING FEATURES:**—*Hulls* : Black, were at one time painted white or grey. *Boot-topping* : Red. *Ventilators* : Buff. *Inside of Cows* : Buff. *Names* : Mail Liners bear personal names and Cargo Liners names of islands in East Indian Archipelago. Prominent deck cranes.

**SERVICES:**—Holland, Great Britain and Continent to Dutch East Indian, Javanese, ports., etc., via Algiers, Genoa, Port Said, Suez, Colombo and Singapore. Hamburg, Bremen and Antwerp to Netherlands Indies. Java to New York, Calcutta, Singapore. Java, Macassar, Philippines and United States' Pacific Coast ports. "Round-the-World" Service.

## NEW ZEALAND SHIPPING COMPANY LTD., THE. (BRITISH) [217] (NEW ZEALAND LINE.) London, E.C.3.

### PASSENGER SHIPS (Motor.)

<b>Rangitane.</b>	'29.	16,700 tons.	<b>*Rangitata.</b>	'29.	16,700 tons.
		<b>Rangitiki.</b>	'29.	16,700 tons.	

### PASSENGER SHIPS (Steam.)

<b>Remuera.</b>	'11.	11,400 tons.	<b>*Rotorua.</b>	'11.	10,900 tons.
		<b>Ruahine.</b>	'09.	10,900 tons.	

## Some Well Known Shipping Companies

NEW ZEALAND S. Co.—(Contd.)

CARGO VESSELS (Motor).					
Opawa.	'31.	10,400 tons.	Otaio.	'30.	10,000 tons.
Orari.	'31.	10,400 tons.	Papanui.	'36.	10,900 tons.
Paparoa.	'36.	10,900 tons.			

### STEAMERS.

Hororata.	'14.	9,200 tons.	Tekoa.	'22.	8,700 tons.
Hurunui.	'20.	9,200 tons.	Tongariro.	'25.	8,700 tons.
Piako.	'20.	8,300 tons.	Turakina.	'23.	8,700 tons.

**DISTINGUISHING FEATURES:**—*Hulls* : Black. *Boot-topping* : Red with white dividing line. *Ventilators* : Buff (small vents are white). *Inside of Cowls* : Buff (small, red). *Names* : Nearly all have “Maori” names.

“Rangitata” and “Rotorua” are actually owned by the sister company, Federal S.N. Co., but are painted in New Zealand Shipping Co.’s colours.

**SERVICES:**—*Passenger and Cargo*. London and/or Southampton to New Zealand via the Panama Canal.

**NIPPON YUSEN KABUSHIKI KAISHA.** (JAPANESE) [5]  
(JAPAN MAIL STEAM SHIP CO. LTD.)  
Tokio.

PASSENGER SHIPS (Motor).					
Asama Maru.	'29.	17,000 tons.	Tatsuta Maru.	'30.	17,000 tons.
Chicibu Maru.	'30.	17,500 tons.	Terukuni Maru.	'30.	12,000 tons.
Yasukuni Maru.	'30.	12,000 tons.			

## Ships and the Sea

NIPPON YUSEN—(Contd.)

### PASSENGER SHIPS (Steam).

<b>Fushimi Maru.</b>	'14.	11,000 tons.	<b>Katori Maru.</b>	'13.	9,800 tons.
<b>Hakone Maru.</b>	'21.	10,400 tons.	<b>Nagasaki Maru.</b>	'22.	5,300 tons.
<b>Hakozaki Maru.</b>	'22.	10,400 tons.	<b>Palao Maru.</b>	'34.	4,500 tons.
<b>Hakusan Maru.</b>	'23.	10,400 tons.	<b>Rakuyo Maru.</b>	'21.	9,400 tons.
<b>Haruna Maru.</b>	'22.	10,400 tons.	<b>Shanghai Maru.</b>	'22.	5,300 tons.
<b>Kamo Maru.</b>	'08.	8,000 tons.	<b>Shinyo Maru.</b>	'11.	13,000 tons.
<b>Kashima Maru.</b>	'13.	9,900 tons.	<b>Suwa Maru.</b>	'14.	10,700 tons.
		<b>Taiyo Maru.</b>	'11.	14,500 tons.	

### CARGO VESSELS.

(Most of which have passenger accommodation.)

(Motor.)

<b>Asuka Maru.</b>	'24.	7,500 tons.	<b>Nagara Maru.</b>	'34.	7,200 tons.
<b>Atago Maru.</b>	'24.	7,500 tons.	<b>Nako Maru.</b>	'34.	7,200 tons.
<b>Heian Maru.</b>	'30.	11,600 tons.	<b>Nojima Maru.</b>	'34.	7,200 tons.
<b>Heiyo Maru.</b>	'30.	9,800 tons.	<b>Narutuo Maru.</b>	'34.	7,200 tons.
<b>Hikawa Maru.</b>	'30.	11,600 tons.	<b>Noshira Maru.</b>	'34.	7,200 tons.
<b>Hiye Maru.</b>	'30.	11,600 tons.	<b>Noto Maru.</b>	'34.	7,200 tons.

### CARGO VESSELS (Steam).

<b>Akita Maru.</b>	'16.	3,800 tons.	<b>Bokuyo Maru.</b>	'24.	8,600 tons.
<b>Amagi Maru.</b>	'24.	3,200 tons.	<b>Calcutta Maru.</b>	'17.	5,300 tons.
<b>Anyo Maru.</b>	'13.	9,300 tons.	<b>Dakar Maru.</b>	'20.	7,200 tons.
<b>Aso Maru.</b>	'23.	3,000 tons.	<b>Delagoa Maru.</b>	'19.	7,100 tons.
<b>Atsuta Maru.</b>	'09.	9,000 tons.	<b>Durban Maru.</b>	'19.	7,200 tons.
<b>Bengal Maru.</b>	'21.	5,400 tons.	<b>Genoa Maru.</b>	'19.	6,800 tons.

## Some Well Known Shipping Companies

NIPPON YUSEN—(Contd.)

Ginyo Maru.	'21.	8,600 tons.	Rokko Maru.	'23.	3,000 tons.
Hakodate Maru.	'19.	5,300 tons.	Taian Maru.	'17.	3,200 tons.
Ikoma Maru.	'25.	3,200 tons.	Tajima Maru.	'16.	7,000 tons.
Kasagi Maru.	'28.	3,100 tons.	Takaoka Maru.	'20.	7,000 tons.
Kitano Maru.	'09.	8,000 tons.	Taketoyo Maru.	'20.	7,000 tons.
Lima Maru.	'20.	7,000 tons.	Tango Maru.	'05.	6,900 tons.
Lisbon Maru.	'20.	7,100 tons.	Tatsuno Maru.	'16.	7,000 tons.
Lyons Maru.	'20.	7,000 tons.	Toba Maru.	'16.	7,000 tons.
Malacca Maru.	'20.	5,400 tons.	Tokiwa Maru.	'16.	7,000 tons.
Matsumoto Maru.	'21.	7,000 tons.	Tokushima Maru.	'13.	6,000 tons.
Matsuye Maru.	'21.	7,100 tons.	Tottori Maru.	'13.	6,000 tons.
Maya Maru.	'25.	3,100 tons.	Toyama Maru.	'15.	7,100 tons.
Mayebashi Maru.	'21.	7,000 tons.	Toyohashi Maru.	'15.	7,000 tons.
Mikasa Maru.	'28.	3,100 tons.	Toyooka Maru.	'15.	7,100 tons.
Mito Maru.	'21.	7,000 tons.	Tsukuba Maru.	'23.	3,200 tons.
Morioka Maru.	'19.	4,500 tons.	Tsuruga Maru.	'16.	7,000 tons.
Muroran Maru.	'19.	5,400 tons.	Tsushima Maru.	'14.	6,800 tons.
Nagato Maru.	'18.	5,900 tons.	Tsuyama Maru.	'16.	7,000 tons.
Penang Maru.	'13.	5,200 tons.	Yamagata Maru.	'16.	3,800 tons.

Yokohama Maru. '12. 6,100 tons.

**DISTINGUISHING FEATURES:**—*Hulls* : Black with white band. *Boot-topping* : Red.

*Ventilators* : Black. *Inside of Cows* : Red.

**PRINCIPAL SERVICES:**—*Mail, Passenger and Cargo.* Orient to California. Orient to Vancouver and Seattle. Japan to European ports. Japan to Australia. West coast of South America. Japan to Bombay. South Sea Islands service. Japan to China. Osaka to Kobe and Shanghai. Yokohama to Shanghai. Osaka to Kobe and Tsingtao. Osaka to Kobe and Tientsin.

## **Ships and the Sea**

**NORDDEUTSCHER LLOYD.** (GERMAN)  
(NORTH GERMAN LLOYD.)  
(N.D.L.)  
Bremen.

[25 and 29]

### **PASSENGER SHIPS (Motor).**

<b>Fulda.</b>	<b>'24.</b>	<b>9,500 tons.</b>
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### **PASSENGER SHIPS (Turbo-Electric).**

<b>Potsdam.</b>	<b>'35.</b>	<b>18,200 tons.</b>
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<b>Scharnhorst.</b>	<b>'35.</b>	<b>18,200 tons.</b>
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### **PASSENGER SHIPS (Steam).**

<b>Berlin.</b>	<b>'25.</b>	<b>15,300 tons.</b>
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<b>Bremen.</b>	<b>'29.</b>	<b>51,700 tons.</b>
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<b>Columbus.</b>	<b>'22.</b>	<b>32,600 tons.</b>
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<b>Crefeld.</b>	<b>'22.</b>	<b>9,600 tons.</b>
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<b>Der Deutsche.</b>	<b>'24.</b>	<b>11,400 tons.</b>
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<b>Europa.</b>	<b>'28.</b>	<b>49,700 tons.</b>
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<b>Gen. von Steuben.</b>	<b>'22.</b>	<b>14,700 tons.</b>
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<b>Gneisnau.</b>	<b>'35.</b>	<b>18,200 tons.</b>
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<b>Köln.</b>	<b>'21.</b>	<b>9,300 tons.</b>
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<b>Roland.</b>	<b>'27.</b>	<b>2,400 tons.</b>
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<b>Sierra Cordoba.</b>	<b>'24.</b>	<b>11,500 tons.</b>
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<b>Stuttgart.</b>	<b>'23.</b>	<b>13,400 tons.</b>
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# Some Well Known Shipping Companies

NORDDEUTSCHER LLOYD—(Contd.)

## CARGO VESSELS (Motor).

(Most of which have passenger accommodation.)

Düsseldorf.	'35.	4,700 tons.	Königsberg.	'24.	6,000 tons.
Elbe.	'29.	9,200 tons.	Memel.	'34.	3,200 tons.
Erfurt.	'23.	4,200 tons.	Saar.	'34.	3,000 tons.
Weser.	'29.	9,200 tons.			
		(With 4 masts).			
Havel.	'28.	7,300 tons.	Saale.	'28.	7,300 tons.
Trave.	'27.	8,000 tons.			

## CARGO VESSELS (Steam).

(With 4 masts.)

Aller.	'27.	7,600 tons.	Lippe.	'17.	7,800 tons.
Alster.	'28.	8,500 tons.	Main.	'27.	7,600 tons.
Donau.	'29.	9,000 tons.	Mosel.	'27.	8,400 tons.
Isar.	'29.	9,000 tons.	Neckar.	'27.	8,400 tons.
Lahn.	'27.	8,500 tons.	Oder.	'27.	8,500 tons.
		(With 2 masts).			
Aachen.	'23.	6,300 tons.	Anatolia.	'23.	2,400 tons.
Abana.	'29.	2,900 tons.	Ansgir.	'21.	5,900 tons.
Aegina.	'22.	2,400 tons.	Arucas.	'27.	2,400 tons.
Alda.	'21.	4,200 tons.	Askania.	'22.	3,400 tons.
Alk.	'24.	1,200 tons.	Attika.	'23.	2,400 tons.

## Ships and the Sea

NORDEUTSCHER LLOYD—(Contd.)]

<b>Augsburg.</b>	'15.	6,500 tons.	<b>Minden.</b>	'21.	4,200 tons.
<b>Bremerhaven.</b>	'20.	1,600 tons.	<b>Orotava.</b>	'27.	3,300 tons.
<b>Chemnitz.</b>	'25.	5,500 tons.	<b>Porta.</b>	'21.	4,200 tons.
<b>Erlangen.</b>	'29.	6,000 tons.	<b>Raimund.</b>	'22.	3,700 tons.
<b>Este.</b>	'30.	7,900 tons.	<b>Roland.</b>	'21.	4,200 tons.
<b>Franken.</b>	'26.	7,800 tons.	<b>Schwaben.</b>	'26.	7,800 tons.
<b>Frankfurt.</b>	'29.	5,500 tons.	<b>Trier.</b>	'23.	9,400 tons.
<b>Friderun.</b>	'22.	2,500 tons.	<b>Ulm.</b>	'21.	4,000 tons.
<b>Goslar.</b>	'29.	6,000 tons.	<b>Wido.</b>	'23.	5,900 tons.
<b>Ingram.</b>	'22.	3,700 tons.	<b>Wiegand.</b>	'22.	5,900 tons.

**DISTINGUISHING FEATURES:**—*Hulls* : Black. *Boot-topping* : Red; most passenger ships have white dividing line. *Ventilators* : Buff. *Inside of Cowls* : Red. *Boats* : Some have brown-painted boats. *Funnels* : Some of the cargo vessels have black tops. Some of passenger liners have coat of arms of Bremen on either bow.

**SERVICES:**—*Mail, Passenger and Cargo.* Bremen to Southampton, Cherbourg and New York. *Passenger and Cargo.* Bremen to Halifax. Bremen and Hamburg to Pacific coast ports. Bremen to Central America. Bremen to Spain and Portugal. Hamburg to Australasia and Far East, China and Japan.

## NORDENFJELDSKE DAMPSKIBSSELSKAB., DET. (NORWEGIAN) [14 and 25]

Trondheim.

<b>Arnfinn Jarl.</b>	'21.	1,200 tons.	<b>Einar Jarl.</b>	'21.	1,900 tons.
<b>Atle Jarl</b>	'19.	1,200 tons.	<b>Erling Jarl.</b>	'95.	700 tons.
<b>Bruse Jarl.</b>	'23.	1,900 tons.	<b>Haakon Adalstein.</b>	'04.	1,500 tons.
<b>Dronning Maud.</b>	'25.	1,500 tons.	<b>Haakon Jarl.</b>	'04.	1,500 tons.

## Some Well Known Shipping Companies

NORDENFJELDSKE—(Contd.)

Henrik Wergeland.	'83.	500 tons.	Ragnvald Jarl.	'21.	1,900 tons.
Kong Erik.	'03.	900 tons.	Roald Jarl.	'13.	1,400 tons.
Kong Halfdan.	'23.	1,500 tons.	Rolf Jarl.	'20.	1,900 tons.
Kong Harald.	'90.	1,200 tons.	Sigurd Jarl.	'94.	900 tons.
Kong Magnus.	'11.	1,400 tons.	Svein Jarl.	'19.	1,900 tons.
Orm Jarl.	'22.	1,800 tons.	Sverre Sigurdssön.	'23.	1,100 tons.
Ottar Jarl.	'21.	1,500 tons.	Tordenskjold.	'06.	900 tons.
Prins Olav.	'07.	2,100 tons.	Tore Jarl.	'19.	1,500 tons.
Prinsesse Ragnhild.	'31.	1,600 tons.	Torfinn Jarl.	'22.	1,500 tons.
Trondhjem	'23.				1,100 tons.

**DISTINGUISHING FEATURES:**—*Hulls* : Black. *Boot-topping* : Red with white dividing line except “Prins Olav,” which has green. *Ventilators* : Brown except “Prins Olav,” which has buff. *Inside of Cows* : Red.

**SERVICES:**—*Passenger and Cargo*. London and Antwerp to Malaga, Valencia, Tarragona, Barcelona, Cette, Marseilles, Genoa, Leghorn, Naples, Messina, Piraeus, Salonica, Patras and other Greek ports. Liverpool, Manchester, Preston, Glasgow, Copenhagen and Stockholm to Finnish ports. United Kingdom to White Sea. Norway to Hamburg. Norway to Danzig and Königsberg. *Cruising*.

### SWEDEN.

**“NORDSTJERNAN,” REDERI AKTIEBOLAGET.** (SWEDISH) [4]

(JOHNSON LINE.)

(AXEL AXELSON JOHNSON.)

Stockholm.

MOTOR VESSELS (Tankers, with engines aft.)

Dalanäs.	'35.	500 tons.	Nynas.	'29.	300 tons.
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## Ships and the Sea

NORDSTJERNAN—(Contd.)

### VESSELS with three masts.

Balboa.	'19.	5,000 tons.
Buenos Aires.	'20.	5,600 tons.
Canada.	'21.	5,500 tons.
KronprinsessanMargareta	'14.	3,700 tons.
Lima.	'18.	3,800 tons.
Pacific.	'14.	3,700 tons.
Pedro Christophersen.	'13.	3,700 tons.
San Francisco.	'15.	3,700 tons.
Santos.	'25.	3,800 tons.
Suecia.	'12.	3,700 tons.
Valparaiso.	'17.	3,800 tons.

### VESSELS with two masts.

Annie Johnson.	'25.	4,900 tons.	Brasil.	'35.	5,100 tons.
Argentina.	'35.	5,300 tons.	Margaret Johnson.	'28.	5,100 tons.
Axel Johnson.	'25.	4,900 tons.	Nordstjernan.	'35.	5,200 tons.
Uruguay.	'35.	5,200 tons.			

DISTINGUISHING FEATURES:—*Hulls* : Light Grey. *Boot-topping* : Red. *Ventilators* : White. *Inside of Cowls* : Sky blue. *Masts and Derricks* : Cream.

SERVICES:—*Passenger and Cargo*. Sweden to Brazil and River Plate. Sweden to Antwerp, Colombia, Panama Canal, Central America, North Pacific, returning via Plymouth and Hull. *Petroleum Service*. Between Scandinavia and Baltic ports.

## Some Well Known Shipping Companies

### NORSKE AMERIKALINJE, A/S. DEN. (NORWEGIAN) [28] (THE NORWEGIAN AMERICA LINE.)

Oslo.

#### PASSENGER SHIPS.

Bergensfjord.	'13.	11,000 tons.	Stavangerfjord.	'18.	13,200 tons.
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#### CARGO VESSELS (Motor).

Fördefjord.	'24.	5,200 tons.	Tönsbergfjord.	'30.	3,200 tons.
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#### CARGO VESSELS (Steam).

Drammensfjord.	'20.	5,300 tons.	Skiansfjord.	'22.	5,900 tons.
Idefjord.	'21.	4,300 tons.	Tanafjord.	'21.	5,900 tons.
Kristianiafjord.	'21.	6,800 tons.	Topdalsfjord.	'21.	4,300 tons.
Lyngenfjord.	'13.	5,900 tons.	Trondhjemsfjord.	'21.	6,800 tons.
Norefjord.	'19.	3,100 tons.	Tyrifjord.	'19.	3,100 tons.

**DISTINGUISHING FEATURES:**—*Hulls*: Silver Grey. *Boot-topping*: Red with white dividing line. *Ventilators*: Buff. *Inside of Cows*: Red. *Masts and Derricks*: Cream. *Names*: All have suffix "Fjord."

**SERVICES:**—*Passenger and Cargo*. Stavanger and Bergen to New York, Oslo, Stavanger, Christiansand and Bergen to New York, Portland, Montreal.

## Ships and the Sea

### NORTH OF SCOTLAND & ORKNEY & SHETLAND STEAM NAVIGATION

CO. LTD., THE (BRITISH)

[16]

Aberdeen.

Earl of Zetland	'77.	300 tons.	St. Magnus.	'24.	1,500 tons.
St. Catherine.	'93.	1,000 tons.	St. Ninian.	'95.	700 tons.
St. Clair.	'68.	600 tons.	St. Ola.	'92.	200 tons.
St. Clement.	'28.	500 tons.	St. Rognvald.	'01.	900 tons.
	(Engines aft.)		St. Sunniva.	'31.	1,400 tons.
St. Fergus.	'13.	400 tons.			
	(Engines aft.)				

**DISTINGUISHING FEATURES:**—*Hulls* : Black except “St. Sunniva” which has white. *Boot-topping* : Red, except “St. Sunniva” which has green. *Upperworks and Boats* : Brown. *Names* : Have prefix “St.”

**SERVICES:**—*Mail, Passenger and Cargo.* Edinburgh (Leith) and Aberdeen to Caithness, Orkney and Shetland.

### OLSEN, FRED. & CO. (NORWEGIAN)

[13 and 26]

(AKTIES. GANGER ROLF.)

Oslo.

#### MOTOR VESSELS.

Bajamar.	'30.	2,800 tons.	
Balzac.	'21.	1,000 tons.	(Engines aft.)

# Some Well Known Shipping Companies

OLSEN—(Contd.)

Bañaderos.	'30.	2,700 tons.	
Batavia.	'22.	1,000 tons.	(Engines aft.)
Benjamin Franklin.	'27.	7,000 tons.	(Three masts.)
Betancuria.	'33.	2,700 tons.	
Borgland.	'18.	3,600 tons.	(Three masts.)
Brabant.	'26.	2,300 tons.	
Bra-Kar.	'28.	3,800 tons.	
Breñas.	'33.	2,700 tons.	
Helgoy	'20.	5,600 tons.	
Laurits Swenson.	'30.	5,700 tons.	(Three masts.)
San Andres.	'21.	2,000 tons.	

## STEAM SHIPS.

Bali.	'28.	1,400 tons.	
Basel.	'24.	1,100 tons.	
Bastant.	'12.	1,700 tons.	(Four masts.)
Bayard.	'36.	tons.	
Bessheim.	'12.	1,800 tons.	
Biarritz.	'22.	1,800 tons.	(Four masts.)
Biri.	'14.	900 tons.	
Blenheim.	'23.	1,800 tons.	
Bolette.	'20.	1,200 tons.	(Four masts.)
Bollsta.	'24.	1,800 tons.	
Bomma.	'20.	800 tons.	
Bör.	'18.	900 tons.	
Breda.	'15.	1,300 tons.	
Bruse.	'33.	2,200 tons.	(Engines aft.)
Buena Vista.	'25.	2,000 tons.	



## Ships and the Sea

OLSEN—(Contd.)

<b>Burgos.</b>	'20.	3,200 tons.	
<b>Ek.</b>	'11.	1,000 tons.	
<b>Paris.</b>	'22.	1,800 tons.	(Four masts.)
<b>San Carlos.</b>	'14.	2,800 tons.	

(AKTIES. BONHEUR.)

<b>Abraham Lincoln (M.V.).</b>	'29.	5,700 tons.	(Three masts.)
<b>Balduin.</b>	'21.	1,200 tons.	(Four masts.)
<b>Bravo I.</b>	'08.	1,600 tons.	
<b>Brisk.</b>	'23.	1,600 tons.	
<b>San Jose.</b>	'20.	2,000 tons.	
<b>San Mateo.</b>	'11.	1,700 tons.	
<b>Santa Cruz.</b>	'05.	1,500 tons.	
<b>Santiago.</b>	'03.	1,400 tons.	
<b>Sardinia (M.V.).</b>	'21.	2,000 tons.	

(A/S. JEOLÖNJEN.)

<b>Akershus.</b>	'14.	800 tons.	<b>Jelö.</b>	'29.	1,300 tons.
<b>Bonn.</b>	'28.	1,300 tons.	<b>Mailand.</b>	'15.	800 tons.
<b>Brunla.</b>	'09.	800 tons.	<b>Marvel.</b>	'21.	1,600 tons.

(D/S. A/S. SPANSKELINJEN.)

<b>Bosphorus.</b>	'34.	2,100 tons.	<b>Segovia (M.V.).</b>	'22.	1,400 tons.
<b>San Lucar.</b>	'06.	1,500 tons.	<b>Sevilla (M.V.).</b>	'21.	1,400 tons.
<b>San Miguel (M.V.).</b>	'20.	2,400 tons.	<b>Solferino.</b>	'18.	2,600 tons.

**Stromboli.** '02. 1,400 tons.

**DISTINGUISHING FEATURES:**—*Hulls*: Some black, some grey. *Boot-topping*: Red for black ships; green for grey ships. *Ventilators*: Black for black ships; buff for others. *Inside of Cows*: Red. *Masts and Derricks*: Buff for grey ships.

## Some Well Known Shipping Companies

OLSEN—(Contd.)

SERVICES:—*Mail, Passenger and Cargo.* Norwegian ports to United Kingdom and North Continental ports. Norwegian ports to Canary Islands. Scandinavian ports to Panama, San Diego, Los Angeles, San Francisco, Portland, Tacoma, Seattle, Victoria and Vancouver. Norway to Spain, Portugal, France, Italy, Levant North African and Black Sea ports.

### ORIENT STEAM NAVIGATION COMPANY LTD. (BRITISH) [211] (ANDERSON, GREEN & Co. LTD.) London, E.C.3.

#### PASSENGER SHIPS.

<b>Orama.</b>	'24.	19,800 tons.	<b>Ormonde.</b>	'17.	15,000 tons.
<b>Orcades.</b> (Building)		24,000 tons.	<b>Oronsay.</b>	'25.	20,000 tons.
<b>Orford.</b>	'28.	19,900 tons.	<b>Orontes.</b>	'29.	20,000 tons.
<b>Orion.</b>	'35.	24,000 tons.	<b>Orsova.</b>	'09.	12,000 tons.
<b>Otranto.</b>		'25.	20,000 tons.		

DISTINGUISHING FEATURES:—*Hulls* : Black; “Orion” has deep cream. *Boot-topping* : Red; “Orion” has green. *Ventilators* : Buff, except small vents which are white. *Inside of Cowls* : Buff. *Names* : All commence with “O.” All ships have “Admiralty topped” funnels. SERVICES:—*Mail, Passenger and Cargo.* London (Tilbury) to Brisbane, calling at Gibraltar, Toulon, Palma, Naples, Port Said, Suez, Aden, Colombo, Fremantle, Adelaide, Melbourne and Sydney. On homeward voyage ships call at Plymouth or Southampton and in Australian fruit season an additional call is made at Hobart, Tasmania.

*Cruises.* To Northern Capitals, Fjords, Mediterranean, Atlantic Islands and Adriatic.

## Ships and the Sea

**OSAKA SHOSEN KABUSHIKI KAISHA.** (JAPANESE) [3]  
(OSAKA MERCANTILE STEAMSHIP CO. LTD.)  
Osaka.

### PASSENGER SHIPS (Motor).

Buenos Aires Maru.	'29.	9,600 tons.	Kurenai Maru.	'24.	1,500 tons.
Choan Maru.	'27.	2,600 tons.	La Plata Maru.	'26.	7,300 tons.
Chojo Maru.	'27.	2,500 tons.	Montevideo Maru.	'26.	7,300 tons.
Choko Maru.	'27.	2,600 tons.	Rio de Janeiro Maru.	'30.	9,600 tons.
Santos Maru.	'25.	7,300 tons.			

### PASSENGER SHIPS (Steam).

Africa Maru.	'18.	9,400 tons.	Kitsurin Maru.	'35.	6,800 tons.
Arabia Maru.	'18.	9,400 tons.	Koshun Maru.	'27.	4,300 tons.
Arizona Maru.	'20.	9,600 tons.	Mexico Maru.	'10.	5,800 tons.
Baikal Maru.	'21.	5,300 tons.	Midzuho Maru.	'12.	8,500 tons.
Fuso Maru.	'08.	8,200 tons.	Nekka Maru.	'35.	6,800 tons.
Hawaii Maru.	'15.	9,500 tons.	Takachiho Maru.	'34.	8,200 tons.
Horai Maru.	'12.	9,200 tons.	Ural Maru.	'29.	6,400 tons.

### CARGO VESSELS.

(Most of which carry passengers).  
(Motor.)

Aso Maru.	'32.	700 tons.	Hayatomo Maru.	'25.	700 tons.
Brisbane Maru.	'30.	5,400 tons.	Heito Maru.	'35.	4,500 tons.
Fuji Maru.	'32.	700 tons.	Hokkai Maru.	'33.	8,400 tons.

# Some Well Known Shipping Companies

Hokuroku Maru.	'30.	8,400 tons.	Mihara Maru.	'25.	700 tons.
Kiki Maru.	'32.	400 tons.	Muro Maru.	'26.	1,600 tons.
Kinai Maru.	'30.	8,400 tons.	Nachi Maru.	'26.	1,600 tons.
Kiri Maru.	'32.	400 tons.	Nankai Maru.	'33.	8,400 tons.
Kiso Maru.	'32.	700 tons.	Ondo Maru.	'23.	700 tons.
Matsu Maru.	'32.	400 tons.	Sanyo Maru.	'30.	8,400 tons.
Melbourne Maru.	'30.	5,400 tons.	Sumire Maru.	'28.	1,700 tons.
Midori Maru.	'28.	1,700 tons.	Sydney Maru.	'29.	5,400 tons.
Tokai Maru.	'30.	8,400 tons.			

## CARGO VESSELS (Steam).

Alaska Maru.	'19.	7,400 tons.	Daidou Maru.	'36.	8,000 tons.
Altai Maru.	'18.	7,800 tons.	Daikyu Maru.	'20.	1,500 tons.
Amoy Maru.	'06.	700 tons.	Daishin Maru.	'05.	1,300 tons.
Amur Maru.	'19.	7,800 tons.	Deli Maru.	'22.	2,200 tons.
Argun Maru.	'20.	6,600 tons.	Fukuken Maru.	'20.	2,600 tons.
Atlas Maru.	'20.	7,300 tons.	Ganges Maru.	'18.	4,400 tons.
Beppu Maru.	'07.	700 tons.	Hague Maru.	'20.	5,600 tons.
Borneo Maru.	'17.	5,900 tons.	Hamburg Maru.	'20.	5,200 tons.
Burma Maru.	'17.	4,600 tons.	Harbin Maru.	'15.	5,200 tons.
Busho Maru.	'21.	2,600 tons.	Havana Maru.	'20.	5,700 tons.
Canada Maru.	'11.	5,800 tons.	Havre Maru.	'20.	5,700 tons.
Canton Maru.	'28.	2,800 tons.	Himalaya Maru.	'18.	5,200 tons.
Celebes Maru.	'17.	5,900 tons.	Honolulu Maru.	'20.	5,800 tons.
Chicago Maru.	'10.	5,900 tons.	Hozan Maru.	'07.	2,300 tons.
Chosa Maru.	'21.	2,500 tons.	Indus Maru.	'18.	4,400 tons.
Daichi Maru.	'05.	1,300 tons.	Iwami Maru.	'16.	800 tons

# Ships and the Sea

OSAKA—(Contd.)

Kagi Maru.	'07.	2,300 tons.	Peking Maru.	'14.	3,000 tons.
Kaijo Maru.	'06.	2,000 tons.	Ryuko Maru.	'36.	3,000 tons.
Kanan Maru.	'20.	2,600 tons.	Ryukyu Maru.	'06.	700 tons.
Kishu Maru.	'20.	2,600 tons.	Sakishima Maru.	'18.	1,200 tons.
Kohoku Maru.	'15.	2,600 tons.	Seattle Maru.	'09.	5,900 tons.
Kohso Maru.	'17.	3,200 tons.	Seikai Maru.	'20.	3,200 tons.
Konan Maru.	'15.	2,700 tons.	Seikyo Maru.	'21.	2,600 tons.
Kunsan Maru.	'04.	700 tons.	Sekkow Maru.	'17.	3,200 tons.
London Maru.	'21.	7,200 tons.	Shiga Maru.	'06.	700 tons.
Madras Maru.	'19.	3,800 tons.	Shisen Maru.	'18.	2,200 tons.
Manila Maru.	'15.	9,400 tons.	Shunko Maru.	'19.	6,800 tons.
Matsuye Maru.	'07.	700 tons.	Shuri Maru.	'28.	1,900 tons.
Menado Maru.	'22.	2,200 tons.	Sumatra Maru.	'17.	5,900 tons.
Miyako Maru.	'14.	1,000 tons.	Surabaya Maru.	'19.	4,400 tons.
Moppo Maru.	'04.	700 tons.	Tacoma Maru.	'09.	5,900 tons.
Murasaki Maru.	'21.	1,600 tons.	Taichu Maru.	'97.	3,200 tons.
Muroto Maru.	'22.	1,300 tons.	Taihoku Maru.	'91.	2,500 tons.
Nanking Maru.	'14.	3,000 tons.	Tainan Maru.	'97.	3,200 tons.
Naruto Maru.	'00.	1,300 tons.	Taizan Maru.	'02.	3,900 tons.
Nase Maru.	'17.	1,200 tons.	Takao Maru.	'27.	4,300 tons.
Nichifuka Maru.	'20.	1,300 tons.	Urado Maru.	'21.	1,300 tons.
Nishiika Maru.	'36.	tons.	Usa Maru.	'15.	800 tons.
Nitto Maru.	'20.	2,200 tons.	Ussuri Maru.	'32.	6,400 tons.
Oigawa Maru.	'97.	600 tons.	Yakumo Maru.	'19.	3,200 tons.
Oita Maru.	'07.	700 tons.	Yashima Maru.	'15.	900 tons.
Panama Maru.	'10.	5,800 tons.	Yehime Maru.	'03.	600 tons.
Paris Maru.	'21.	7,200 tons.			

## Some Well Known Shipping Companies

OSAKA—(Contd.)

**DISTINGUISHING FEATURES:**—*Hulls* : Black with white band. *Boot-topping* : Red.  
*Ventilators* : Black. *Inside of Cowls* : Red.

**SERVICES:**—*Passenger and Cargo*. Japan to European ports. Shanghai to Puget Sound. Hong Kong to New York. Japan to South America (round the world service). Japan to Australia. Japan to Bombay. Japan to Calcutta. Japan to East Africa. Japan to Java. Japan to Philippines. Kobe to Keelung. "Osaka-Dairen Line." "Osaka-Tientsin Line," "Osaka-Tsingtau Line," "Saigon-Gangkok Line," "Hongkong-Haiphong Line," "Keelung-Hongkong Line," "Keelung-Foochow Line," "Japan-Canton Line." Over twenty regular Japanese coastal lines.

**ÖSTASIATISKE KOMPAGNI, AKTIESELSKABET DET.** (DANISH) [8]  
 (THE EAST ASIATIC COMPANY, LTD.)  
 Copenhagen.

MOTOR VESSELS.  
 (With funnels.)

<b>Amerika.</b>	'30.	10,100 tons.	<b>Canada.</b>	'34.	10,500 tons.
		<b>Europa.</b>	'31.	10,200 tons.	
(Without funnels and with 3 or 4 masts.)					
<b>Afrika.</b>	'20.	8,600 tons.	<b>Bintang.</b>	'22.	2,800 tons.
<b>Alsia.</b>	'29.	5,800 tons.	<b>Boringia.</b>	'30.	5,800 tons.
<b>Annam.</b>	'13.	6,600 tons.	<b>Chile.</b>	'15.	7,000 tons.
<b>Asia.</b>	'19.	7,000 tons.	<b>Danmark.</b>	'25.	8,400 tons.
<b>Australien.</b>	'15.	6,700 tons.	<b>Erria.</b>	'32.	8,600 tons.



## Ships and the Sea

OSTASIATISKE—(Contd.)

<b>Falstria.</b>	'15.	4,400 tons.	<b>Meonia.</b>	'27.	5,200 tons.
<b>Fionia.</b>	'14.	5,300 tons.	<b>Muinan.</b>	'31.	3,100 tons.
<b>India.</b>	'30.	9,500 tons.	<b>Panama.</b>	'15.	6,600 tons.
<b>Java.</b>	'21.	8,700 tons.	<b>Peru.</b>	'16.	7,000 tons.
<b>Jutlandia.</b>	'34.	8,500 tons.	<b>Selandia.</b>	'12.	4,900 tons.
<b>Lalandia.</b>	'27.	4,900 tons.	<b>Siam.</b>	'13.	6,600 tons.
<b>Malaya.</b>	'21.	8,700 tons.	<b>Tongking.</b>	'14.	6,600 tons.

**DISTINGUISHING FEATURES:**—*Hulls* : Black with white band or very light grey.

*Boot-topping* : Red. *Masts and Derricks* : Cream. *Ventilators* : Light Buff.

**SERVICES:**—*Passenger and Cargo.* “*China-Japan Line*,” Copenhagen, Oslo, Gothenburg, Antwerp, Rotterdam, and Hamburg via Suez to Hongkong, Shanghai, Yokohama, Kobe, Moji, Dalny and Vladivostock. “*Bangkok Line*,” Copenhagen, Gothenburg, Oslo, Middlesbro’, Hamburg, Schiedam, Antwerp, Southampton, La Rochelle via Suez to Colombo, Penang, Port Swettenham, Singapore, and Bangkok. “*Netherlands-India Line*,” Copenhagen, Gothenburg, Oslo, Hamburg via Suez to Batavia, Samarang, Soerabaya, etc. “*West India and North Pacific Line*,” Copenhagen, Gothenburg, Oslo, Newcastle-on-Tyne, Hamburg, Antwerp, to St. Thomas, Cristobal, Los Angeles, San Francisco, Portland, Seattle, Vancouver. “*South African Line*,” Copenhagen, Gothenburg, and Oslo, to Capetown, Mossel Bay, Algoa Bay, East London, Durban, Delagoa Bay and Beira. “*Australia Line*,” Copenhagen, Gothenburg, Oslo, Hamburg and Baltic ports, to Fremantle, Adelaide, Melbourne, Sydney and Brisbane. “*Baltic America Line*,” Danzig and Copenhagen, to Halifax and New York.



## Some Well Known Shipping Companies

### PACIFIC STEAM NAVIGATION COMPANY (BRITISH) [200] (P.S.N.C.) (THE PACIFIC LINE.) Liverpool.

#### PASSENGER SHIP (Motor).

**Reina del Pacifico.** '31. 17,000 tons.

#### PASSENGER SHIPS (Steam).

<b>Acajutla.</b>	'11.	1,200 tons.	<b>Oropesa.</b>	'20.	14,000 tons.
<b>Orbita.</b>	'15.	15,500 tons.	<b>Oroya.</b>	'21.	12,300 tons.
<b>Orduña.</b>	'14.	15,500 tons.	<b>Salvador.</b>	'09.	1,100 tons.

#### CARGO VESSELS (Motor).

(Most of which carry a limited number of passengers.)

<b>La Paz.</b>	'20.	6,500 tons.	<b>Lobos.</b>	'21.	6,500 tons.
<b>Lagarto.</b>	'17.	5,000 tons.	<b>Loreto.</b>	'19.	6,700 tons.
<b>Laguna.</b>	'23.	6,500 tons.	<b>Loriga.</b>	'19.	6,700 tons.
<b>Lautaro.</b>	'15.	6,200 tons.	<b>Losado.</b>	'21.	6,500 tons.

**DISTINGUISHING FEATURES:**—*Hulls* : Black except “Reina” which is white.  
*Boot-topping* : Green. *Ventilators* : White. *Inside of Cowls* : Green. *Masts and Derricks* : All white in “Reina.” *Names* : South or Central American.

**SERVICES:**—*Mail, Passenger and Cargo.* Liverpool to Bermuda, Havana, Cristobal (Colon) and West Coast of South America, via France, Spain and Panama Canal. Liverpool to East and West Coast of South America via France, Spain and Straits of Magellan. Central America to Cristobal, Punta Arenas, San Juan del Sur, Corinto Amapala, La Union, La Libertad, Acajutla, San Jose and Champerico.

# Ships and the Sea

## PAQUET, COMPAGNIE DE NAVIGATION (FRENCH) Marseilles.

[1]

### PASSENGER SHIPS.

<b>Asni.</b>	'29.	2,800 tons.	<b>Koutoubia.</b>	'31.	8,800 tons.
<b>Azrou.</b>	'30.	3,000 tons.	<b>Le Rhin.</b>	'20.	2,500 tons.
<b>Chella.</b>	'35.	9,000 tons.	<b>Maréchal Lyautey</b>	'24.	8,300 tons.
<b>Djenne.</b>	'31.	8,800 tons.	<b>Medie II.</b>	'22.	5,100 tons.
<b>Imerethie II.</b>	'24.	3,700 tons.	<b>Oued Sebou II.</b>	'25.	2,400 tons.

### CARGO VESSELS.

<b>Anfa.</b>	'03.	4,400 tons.	<b>Oued Grou.</b>	'21.	800 tons.
<b>Arcturus.</b>	'13.	2,500 tons.	<b>Oued Mellah.</b>	'18.	2,400 tons.
<b>Bamako (M.V.).</b>	'30.	2,400 tons.	<b>Oued Tiflet.</b>	'14.	1,200 tons.
<b>Oued el Abid.</b>	'20.	900 tons.	<b>Oued-Yquem.</b>	'20.	1,400 tons.
<b>Oued Fes.</b>	'13.	2,600 tons.	<b>Oued-Zem.</b>	'21.	1,900 tons.

**Ouergha.** '20. 2,000 tons.

**DISTINGUISHING FEATURES:**—*Hulls* : Most large passenger ships have white, others black. *Boot-topping* : Red. *Masts and Derricks* : Most large passenger ships have all white with centre of foremast black. Others: mast colour with extreme tops white. *Ventilators* : Large black; small white.

**SERVICES:**—*Mail, Passenger and Cargo.* Marseilles to North African ports.  
Marseilles to Black Sea ports.

## Some Well Known Shipping Companies

### PENINSULAR & ORIENTAL STEAM NAVIGATION CO. [22 and 206] (P. & O.) (BRITISH)

London, E.C.3.

#### PASSENGER SHIPS.

Carthage.	'31.	14,300 tons.	Naldera.	'18.	16,100 tons.
Cathay.	'25.	15,100 tons.	Narkunda.	'20.	16,600 tons.
Chitral.	'25.	15,100 tons.	Rajputana.	'26.	16,700 tons.
Comorin.	'25.	15,100 tons.	Ranchi.	'25.	16,700 tons.
Corfu.	'31.	14,300 tons.	Ranpura.	'25.	16,700 tons.
Kaisar-I-Hind.	'14.	11,500 tons.	Rawalpindi.	'25.	16,700 tons.
Maloja.	'23.	21,000 tons.	Strathaird (T.E.V.).	'31.	22,300 tons.
Moldavia.	'22.	16,600 tons.	Strathmore	'35.	24,000 tons.
Mongolia.	'23.	16,600 tons.	Strathnaver (T.E.V.).	'31.	22,300 tons.
Mooltan.	'23.	21,000 tons.	Viceroy of India(T.E.V.)	'29.	19,700 tons.

#### CARGO VESSELS.

Alipore.	'20.	5,300 tons.	Mirzapore.	'21.	6,700 tons.
Jeypore.	'20.	5,300 tons.	Nagpore.	'20.	5,300 tons.
Kidderpore.	'20.	5,300 tons.	Peshawur.	'19.	7,900 tons.
Lahore.	'20.	5,300 tons.	Somali.	'30.	6,800 tons.
Soudan.	'31.	6,800 tons.			

**DISTINGUISHING FEATURES:—***Hulls* : Black with white band with exception of “Straths” which are all white. *Boot-topping* : Red. *Upperworks and Boats* : Stone colour with exception of “Straths” which have white. *Ventilators* : Black (Small

## Ships and the Sea

P. & O.—(Contd.)

vents buff); all vents in “Straths” are buff. *Inside of Cows*: Red. *Crows Nests*: Often white. *Refrigerating Capacity of Fleet*: 3,800 cubic feet. *Names*: Mostly Indian or Oriental.

**SERVICES**:—*Mail, Passenger and Cargo*. London and Marseilles to Bombay and Karachi. London to Colombo, Madras and Calcutta. London to Australia. London and Marseilles to Malta, Ceylon, Straits, China and Japan. Also Mediterranean and Northern Cruises.

### PRINCE LINE LTD. (BRITISH) (Controlled by FURNESS WITHY.) London, E.C.3.

[60]

#### PASSENGER SHIPS (Motor).

Eastern Prince.	'29.	10,900 tons.	Siamese Prince.	'29.	6,600 tons.
Northern Prince.	'29.	10,900 tons.	Southern Prince.	'29.	10,900 tons.
Western Prince.	'29.	10,900 tons.			

#### CARGO VESSELS.

Algerian Prince.	'19.	3,100 tons.	Lancastrian Prince.	'21.	3,500 tons.
Cyprian Prince.	'19.	3,100 tons.	Persian Prince.	'18.	5,700 tons.
Egyptian Prince.	'22.	3,500 tons.	Scottish Prince.	'10.	2,900 tons.
Italian Prince.	'21.	3,500 tons.	Syrian Prince.	'19.	3,100 tons.

#### (RIO CAPE LINE LTD.)

#### PASSENGER SHIPS (Motor.)

Chinese Prince.	'26.	6,700 tons.	Japanese Prince.	'26.	6,700 tons.
Cingalese Prince.	'29.	6,600 tons.	Javanese Prince.	'26.	6,700 tons.
Malayan Prince.	'26.	6,700 tons.			

## Some Well Known Shipping Companies

## CARGO VESSELS.

<b>African Prince.</b>	'17.	5,100 tons.	<b>Sardinian Prince.</b>	'22.	3,500 tons.
<b>Corsican Prince.</b>	'21.	3,500 tons.	<b>Sicilian Prince.</b>	'22.	3,500 tons.
<b>Indian Prince.</b>	'17.	4,900 tons.			

**DISTINGUISHING FEATURES:**—*Hulls* : French grey. *Boot-topping* : Red. *Ventilators* : Black; small vents, white. *Inside of Cowls* : Red. *Names* : All "Princes."

**SERVICES:**—"Prince Line." *Far East Service and Round the World Service.* New York, Halifax, Norfolk Va. and Los Angeles to Japan, China, Philippines, D.E.I. and Straits, returning via Colombo and Suez Canal to Boston and New York. *Brazil and River Plate Service.* Middlesbrough, Antwerp, and London to River Plate. Boston, Philadelphia and New York to River Plate. New York to Brazil *South and East African Service.* New York to South and East African ports, returning to Boston, New York and Philadelphia.

*Mediterranean Service.* Manchester, Leith, Tyne, Middlesbrough, Antwerp and London to Tunis, Malta, Alexandria, Palestine, Syria and Cyprus, returning to Liverpool and Manchester.

**SERVICES:**—"Rio Cape Line." Brazil to South African ports.

**ROOSEVELT STEAMSHIP CO., INC. (U.S.A.)**  
 (UNITED STATES LINES CO. OF NEVADA.)  
 ("U.S.L.")  
 New York.

[20]

## PASSENGER SHIPS.

<b>American Banker.</b>	'20.	7,400 tons.
<b>American Farmer.</b>	'20.	7,400 tons.

## Ships and the Sea

ROOSEVELT S. Co.—(*Contd.*)

American Importer.	'20.	7,600 tons.
American Merchant.	'20.	7,400 tons.
American Shipper.	'21.	7,400 tons.
American Trader.	'20.	7,400 tons.
American Traveler.	'20.	7,600 tons.
Leviathan.	'14.	48,900 tons.
Manhattan.	'32.	24,300 tons.
President Harding.	'21.	13,900 tons.
President Roosevelt.	'21.	13,900 tons.
Washington.	'32.	30,000 tons.

**DISTINGUISHING FEATURES:**—*Hulls* : Black. *Boot-topping* : Red with white dividing line. *Ventilators* : White. *Boot-topping* : Red.

**SERVICES:**—*Mail, Passenger and Cargo.* New York to Plymouth, Cherbourg and Hamburg. New York to Cherbourg and Southampton. New York to Queenstown, Plymouth, Cherbourg and Hamburg. New York to Plymouth and London. Philadelphia, Baltimore, Norfolk and Boston to Dundee, London and Leith.

### ROYAL MAIL LINES LTD. (BRITISH)

[214]

London, E.C.3.

PASSENGER LINERS. (Steam from Southampton.)

Alcantara.	'26.	22,000 tons.	Arlanza.	'12.	14,600 tons.
Almanzora.	'14.	15,600 tons.	Asturias.	'25.	22,200 tons.
Atlantis.	'13.	15,100 tons.	(Cruising ship.)		

## Some Well Known Shipping Companies

ROYAL MAIL—(Contd.)

### PASSENGER LINERS. (Motor from London.)

<b>Highland Brigade.</b>	'29.	14,100 tons.	<b>Highland Monarch.</b>	'28.	14,100 tons.
<b>Highland Chieftain.</b>	'29.	14,100 tons.	<b>Highland Patriot.</b>	'32.	14,100 tons.
<b>Highland Princess.</b>	'30.	14,100 tons.			

### CARGO VESSELS.

(Some of which carry passengers.)

(Motor.)

<b>Araby.</b>	'23.	4,900 tons.	<b>Lochgoil.</b>	'24.	9,500 tons.
<b>Brittany.</b>	'28.	4,800 tons.	<b>Lochmonar.</b>	'24.	9,500 tons.
<b>Gascony.</b>	'25.	4,700 tons.	<b>Lochkatrine.</b>	'24.	9,500 tons.

(Steam.)

<b>Culebra.</b>	'19.	3,000 tons.	<b>Natia.</b>	'20.	8,700 tons.
<b>Dart.</b>	'12.	1,100 tons.	<b>Navasota.</b>	'17.	8,700 tons.
(Engines aft.)			<b>Nebraska.</b>	'20.	8,300 tons.
<b>Devon.</b>	'14.	1,400 tons.	<b>Nela.</b>	'16.	7,200 tons.
(Engines aft.)			<b>Nietheroy.</b>	'20.	8,300 tons.
<b>Lombardy.</b>	'21.	3,400 tons.	<b>Nogoya.</b>	'20.	8,400 tons.
<b>Nagara.</b>	'19.	8,700 tons.	<b>Sabor.</b>	'20.	5,300 tons.
<b>Nalon.</b>	'15.	7,200 tons.	<b>Sambre.</b>	'19.	5,300 tons.
<b>Narenta.</b>	'19.	8,300 tons.	<b>Sarthe.</b>	'20.	5,300 tons.
<b>Nariva.</b>	'20.	8,700 tons.	<b>Siris.</b>	'19.	5,300 tons.

**Somme.** '19. 5,300 tons.

**DISTINGUISHING FEATURES:**—*Hulls* : Black; except “Atlantis” which has white with thin orange band. *Boot-topping* : Pink; except “Atlantis” which has red. *Ventilators* : White. *Inside of Cows* : Buff. *Names* : Rivers commencing in “S”;



## Ships and the Sea

ROYAL MAIL—(Contd.)

French and Italian Provinces with suffix, "ny"; prefix, "Highland" (Formerly Nelson Line). Spanish words commencing in "A," "Lochs" and S. American names.

SERVICES:—*Passenger, Mail and Cargo.* Southampton to Brazil, Uruguay and Argentina via Cherbourg, Spain, Portugal and Madeira. Liverpool to Brazil, Uruguay and Argentine via France, Spain and Portugal. London to Cristobal and Central American, Atlantic and Pacific ports. London to Bermuda, Nassau, Jamaica, Haiti, Curaçao, Puerto-Columbia, Cartagena and Cristobal. London to Rio de Janeiro, Santos, Montevideo and Buenos Ayres via Boulogne, Lisbon, Las Palmas, Santos, Montevideo and Buenos Aires via Boulogne, Vigo, Lisbon, Las Palmas and Tenerife. Mediterranean and Northern Cruises.

RUYS, WM. & ZONEN. (DUTCH)

[3]

(ROTTERDAMSCH E LLOYD.)

(ROTTERDAM LLOYD LINE.)

("R.L.")

Rotterdam.

PASSENGER SHIPS (Motor).

Balceran.	'29.	17,000 tons.	Indrapoera.	'25.	10,800 tons.
Dempo.	'30.	17,000 tons.	Sibajak.	'27.	12,100 tons.

PASSENGER SHIP (Steam).

Slamat.	'24.	11,600 tons.
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# Some Well Known Shipping Companies

## CARGO VESSELS.

(Most of which have passenger accommodation.)

(Motor).

Bengalen.	'32.	6,900 tons.	Kota Inten.	'27.	7,200 tons.
Djambi.	'19/33.	7,000 tons.	Kota-Nopan.	'31.	7,400 tons.
Kedoe.	'21.	3,700 tons.	Kota Pinang.	'31.	7,300 tons.
Kota Ageong.	'30.	7,300 tons.	Kota-Radja.	'27.	7,200 tons.
Kota Baroe.	'29.	7,200 tons.	Kota Tjandi.	'30.	7,300 tons.
Kota Gede.	'28.	7,200 tons.	Modjokerto.	'22/33.	7,100 tons.
Tosari.	'19.	7,100 tons.			

## CARGO VESSELS (Steam).

Blitar.	'23.	7,100 tons.	Palembang.	'21.	7,100 tons.
Bondowoso.	'19.	5,100 tons.	Siantar.	'21.	8,400 tons.
Buitenzorg.	'16.	7,100 tons.	Sitebondo.	'16.	7,100 tons.
Garoet.	'17.	7,100 tons.	Soekaboemi.	'23.	7,100 tons.
Kertosono.	'23.	7,200 tons.	Tapanoeli.	'24.	7,000 tons.

**DISTINGUISHING FEATURES:**—*Hulls* : Dove grey. *Boot-topping* : White. *Ventilators* : Black. *Inside of Cows* : Black. *Names* : Netherlands East Indies place names.

**SERVICES:**—*Mail*. Rotterdam to Southampton, Lisbon, Tangiers, Gibraltar, Marseilles, Port Said, Suez, Colombo, Sabang, Belawan, Singapore, Batavia and Sourabaya. *Fast Cargo* : Rotterdam, Hamburg, Bremen, to Netherlands East

Indies, returning to same ports and to Marseilles and London.

*Cargo*. Antwerp, London, Genoa, to Netherlands East Indies, returning to those ports and to Trieste, Barcelona, Havre and Liverpool. Services in conjunction with British "Silver Line" from Java to New York, San Francisco, Rangoon and

Calcutta.

# Ships and the Sea

**SHAW, SAVILL & ALBION COMPANY LTD. (BRITISH)** [245]  
(S.S. & A.)  
London, E.C.3.

## PASSENGER SHIPS.

<b>Akaroa.</b>	'14/32.	15,100 tons.	<b>Mataroa.</b>	'22.	12,400 tons.
<b>Ceramic.</b>	'13.	18,500 tons.	<b>Tainui.</b>	'08.	10,000 tons.
<b>Ionic.</b>	'02.	12,400 tons.	<b>Tamaroa.</b>	'22.	12,400 tons.
		<b>Themistocles.</b>	'11.	11,200 tons.	

## CARGO VESSELS.

(Most having passenger accommodation.)

### (Motor.)

<b>Coptic.</b>	'28.	8,300 tons.	<b>Waipawa.</b>	'34.	10,800 tons.
<b>Karamea.</b>	'28.	8,300 tons.	<b>Wairanga.</b>	'35.	10,800 tons.
<b>Taranaki.</b>	'28.	8,300 tons.	<b>Waiwera.</b>	'34.	10,800 tons.
		<b>Zealandic.</b>	'28.	8,300 tons.	

### (Steam.)

<b>Fordsdale.</b>	'24.	10,000 tons.	<b>Matakana.</b>	'21.	8,000 tons.
<b>Kumara.</b>	'19.	8,000 tons.	<b>Otira.</b>	'19.	8,000 tons.
<b>Mahana.</b>	'17.	8,700 tons.	<b>Pakeha.</b>	'10.	8,000 tons.
<b>Mahia.</b>	'17.	8,000 tons.	<b>Raranga.</b>	'16.	8,000 tons.
<b>Maimoa.</b>	'20.	8,000 tons.	<b>Tairoa.</b>	'20.	8,000 tons.
<b>Mamari.</b>	'11.	7,900 tons.	<b>Waimana.</b>	'11.	7,900 tons.

## Some Well Known Shipping Companies

SHAW, SAVILL—(Contd.)

**DISTINGUISHING FEATURES:**—*Hulls* : Black with white band. *Boot-topping* : Red. *Ventilators* : White (Buff in some cargo ships). *Inside of Cows* : White (Buff in some cargo ships). *Names* : Mostly Maori names; “Themistocles” was taken over from the Aberdeen Line.

Ships are very similar to White Star Liners in appearance, but have white band round hull instead of latter’s gold, and do not have white painted crows’ nests. The derrick posts are usually three abreast.

**SERVICES:**—*Passenger and Cargo*. London to all New Zealand and Australian ports via Panama Canal.

## SOUTHERN PACIFIC S.S. LINES. (U.S.A.)

[32]

(ATLANTIC S.S. LINES.)

New York.

Dixie.	'27.	8,200 tons.	El Isleo.	'20.	4,200 tons.
El Almirante.	'17.	5,200 tons.	El Lago.	'20.	4,200 tons.
El Capitan.	'17.	5,200 tons.	El Mundo.	'10.	6,000 tons.
El Coston.	'24.	7,300 tons.	El Occidente.	'10.	6,000 tons.
El Dia.	'01.	4,500 tons.	El Oceano.	'25.	6,800 tons.
El Estero.	'20.	4,200 tons.	El Oriente.	'10.	6,000 tons.

**DISTINGUISHING FEATURES:**—*Hulls* : Black. *Boot-topping* : Red. *Ventilators* : White. *Inside of Cows* : Red.

**SERVICES:**—*Passenger and Cargo*. New York to New Orleans. New York, New Orleans, Galveston and Houston to Central America, Gulf ports, California, Hawaiian Islands, Philippines, China, Japan and Australia.

## Ships and the Sea

### STANDARD FRUIT & S.S. CORP. (U.S.A.)

[12]

(VACCARO LINE.)

New Orleans, La.

<b>Amapala.</b>	'24.	4,100 tons.	<b>Cefalu.</b>	'30.	5,200 tons.
<b>Atlantida.</b>	'24.	4,200 tons.	<b>Ceiba.</b>	'11.	1,700 tons.
<b>Caloria.</b>	'06.	4,100 tons.	<b>Contessa.</b>	'30.	5,200 tons.
(Tanker; engines aft.)			<b>Gatun.</b>	'25.	3,400 tons.
		<b>Granada.</b>	'25.	3,300 tons.	

(CEIBA NAVIGATION CO.)

MOTOR VESSELS.

<b>Masaya.</b>	'20.	1,200 tons.	<b>Sama.</b>	'22.	600 tons.
<b>Matagalpa.</b>	'20.	1,200 tons.	<b>Teapa.</b>	'19.	1,200 tons.

**DISTINGUISHING FEATURES:**—*Hulls* : White. *Boot-topping* : Red. *Ventilators* : White. *Inside of Cowls* : Red. *Masts and Derricks* : Cream.

**SERVICES:**—*Passenger, Fruit and General Cargo.* New Orleans to Spanish Honduras, Havana, Panama and Nicaragua.

### SVENSKA AMERIKA LINIEN. (SWEDISH)

[10]

(SWEDISH AMERICA LINE.)

(AXEL JONSSON.)

Gothenburg.

PASSENGER SHIPS (Motor).

<b>Gripsholm.</b>	'25.	17,500 tons.	<b>Kungsholm.</b>	'28.	20,200 tons.
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## Some Well Known Shipping Companies

SVENSKA AMERIKA—(Contd.)

### PASSENGER SHIPS (Steam).

**Drottningholm.** '05. 11,100 tons. **Kastelholm.** '28. 900 tons.  
**DISTINGUISHING FEATURES:**—*Hulls* : White. *Boot-topping* : Red. *Ventilators* :  
 Buff. *Inside of Cowls* : Blue. *Masts and Derricks* : Cream. *Names* : All have  
 suffix "Holm."

**SERVICES:**—*Passenger and Cargo.* Gottenburg to New York and Halifax.

**SVENSKA LLOYD, REDERIAKTIEBOLAGET.** (SWEDISH) [15 and 4a]

(SWEDISH LLOYD.)

Gothenburg.

### PASSENGER SHIPS.

<b>Britannia.</b>	'29.	4,200 tons.	<b>Patricia.</b>	'26.	3,900 tons.
<b>Northumbria.</b>	'98.	1,400 tons.	<b>Sueocia.</b>	'29.	4,200 tons.

### CARGO VESSELS.

(Most of which have passenger accommodation.)

(Motor.)

<b>Gdynia.</b>	'34.	1,600 tons.	<b>Scania.</b>	'34.	1,600 tons.
		<b>Sicilia</b> '34.	1,600 tons.		

### CARGO VESSELS (Steam).

<b>Albania.</b>	'03.	1,200 tons.	<b>Canadia.</b>	'20.	1,400 tons.
<b>Algeria.</b>	'21.	2,200 tons.	<b>Catalonia.</b>	'31.	1,500 tons.
<b>Andalusia.</b>	'16.	1,800 tons.	<b>Dahlia.</b>	'07.	1,100 tons.
<b>Bernicia.</b>	'20.	2,100 tons.	<b>Frisia.</b>	'09.	1,100 tons.
<b>Bothnia.</b>	'18.	1,300 tons.	<b>Gallia.</b>	'26.	1,400 tons.
<b>Calabria.</b>	'16.	1,800 tons.	<b>Gothia.</b>	'16.	1,800 tons.
<b>Caledonia.</b>	'13.	1,700 tons.			

(Four masts.)

## Ships and the Sea

SVENSKA LLOYD—(Contd.)

<b>Graecia.</b>	'11.	3,000 tons.	<b>Liguria.</b>	'14.	1,800 tons.
<b>Gwalia.</b>	'07.	1,300 tons.	<b>Mansuria.</b>	'12.	1,100 tons.
<b>Hibernia.</b>	'20.	1,800 tons.	<b>Masilia.</b>	'17.	1,600 tons.
<b>Hispania.</b>	'12.	1,300 tons.	<b>Ring.</b>	'88.	1,200 tons.
<b>Iberia.</b>	'03.	1,400 tons.	<b>Scandinavia.</b>	'99.	1,200 tons.
<b>Ingeborg.</b>	'08.	1,200 tons.	<b>Scotia.</b>	'18.	1,800 tons.
<b>Ivernia.</b>	'21.	2,100 tons.	<b>Valencia.</b>	'25.	2,200 tons.

**DISTINGUISHING FEATURES:**—*Hulls* : Light grey except “Bothnia,” “Britannia,” “Dahlia,” “Frisia,” “Gothia,” “Gwalia,” “Ingeborg,” “Northumbria,” “Patricia,” “Ring” and “Suecia,” which have black. *Boot-topping* : Red. *Ventilators* : White. *Inside of Cows* : Blue. *Masts and Derricks* : Cream. **SERVICES:**—*Passenger and Cargo*. Gothenburg to Tilbury. Gothenburg to Newcastle. Gothenburg to Leith. *Cargo*. Gothenburg to Manchester, Liverpool, Hamburg, Bordeaux and La Pallice. Sweden to Portugal and the Mediterranean. Sweden to Nantes and Northern Spain. *Fruit services Sicily to Gdynia*.

**SVENSKA ÖSTASIATISKE KOMPANIET, AKTIEBOLAGET.** (SWEDISH) [11]  
(SWEDISH EAST ASIATIC COMPANY LTD.)  
Gothenburg.

### MOTOR VESSELS.

<b>Agra.</b>	'25.	4,600 tons.	<b>Nagara.</b>	'29.	6,500 tons.
<b>Canton.</b>	'22.	5,800 tons.	<b>Nanking.</b>	'24.	5,900 tons.
(Three Masts.)					
<b>Delhi.</b>	'25.	4,600 tons.	<b>Peiping.</b>	'31.	6,400 tons.
<b>Formosa.</b>	'21.	7,000 tons.	<b>Shantung.</b>	'29.	6,500 tons.
			<b>Tamara.</b>	'31.	6,400 tons.



## Some Well Known Shipping Companies

SVENSKA OBTASIATISKE—(Contd.)

### STEAM SHIPS.

<b>Benares.</b>	'20.	5,800 tons.	<b>Nippon.</b>	'09.	4,000 tons.
<b>Ceylon.</b>	'11.	5,200 tons.	<b>Siirto.</b>	'21.	800 tons.
<b>Japan.</b>	'11.	5,200 tons.	<b>Sumatra.</b>	'14.	5,400 tons.

**DISTINGUISHING FEATURES:**—*Hulls* : Black. *Boot-topping* : Red. *Ventilators* : Cream. *Inside of Cows* : Blue. *Masts and Derricks* : Cream.

**SERVICES:**—*Cargo with Passenger Accommodation.* Scandinavia to British India and Ceylon. Scandinavia to Red Sea, Straits, Philippines, China and Japan.

### “ TIRRENIA.” (ITALIAN)

[21]

(Combined Fleets of “ FLORIO ” S.A. DI NAV. and COMPAGNIA ITALIANA  
TRANSATLANTICA “ C.I.T.R.A.”).

(Most ships have passenger accommodation.)

### MOTOR VESSELS.

<b>Arborea.</b>	'29.	5,000 tons.	<b>Città di Marsala.</b>	'29.	2,500 tons.
<b>Attilio Deffenu.</b>	'29.	3,500 tons.	<b>Città di Messina.</b>	'29.	2,500 tons.
<b>Caralis.</b>	'28.	3,500 tons.	<b>Città di Napoli.</b>	'29.	5,400 tons.
<b>Città di Agrigento.</b>	'30.	2,500 tons.	<b>Città di Palermo.</b>	'30.	5,400 tons.
<b>Città di Alessandria.</b>	'30.	2,500 tons.	<b>Città di Savona.</b>	'30.	2,500 tons.
<b>Città di Bastia.</b>	'30.	2,500 tons.	<b>Città di Spezia.</b>	'29.	2,500 tons.
<b>Città di Genova.</b>	'30.	5,400 tons.	<b>Città di Trapani.</b>	'29.	2,500 tons.
<b>Città di Livorno.</b>	'30.	2,500 tons.	<b>Città di Tunisi.</b>	'29.	5,400 tons.

**Olbia.** '29. 3,500 tons.

# Ships and the Sea

TIRRENI—(Contd.)

## STEAM SHIPS.

Argentina.	'07.	5,400 tons.	Eritrea.	'18.	2,600 tons.
Bengasi.	'12.	1,700 tons.	Firenza.	'12.	4,000 tons.
Caffaro.	'24.	6,500 tons.	Francesco Crispi.	'25.	7,500 tons.
Cagliari.	'07.	2,300 tons.	Gallipoli.	'98.	1,000 tons.
Campidano.	'99.	1,300 tons.	Garibaldi.	'06.	5,300 tons.
Casaregis.	'24.	6,500 tons.	Giuseppe Mazzini.	'26.	7,050 tons.
Città di Bengasi.	'17.	2,800 tons.	Massaua.	'13.	1,500 tons.
Città di Catania.	'10.	3,400 tons.	Milano		
Città di Trieste.	'15.	4,700 tons.	Montenegro.	'98.	2,600 tons.
Città di Tripoli.	'15.	3,000 tons.	Premjer.	'22.	3,500 tons.
Derna.	'12.	1,800 tons.	Somalia.	'18.	2,700 tons.
Tripolitania.		'18.	2,700 tons.		

DISTINGUISHING FEATURES:—*Hulls*: Black except “Francesco Crispi” and “Giuseppe Mazzini” which are light grey. *Boot-topping*: Red.

SERVICES:—*Mail, Passenger and Cargo*. Italian ports to Palermo, Tunis, Syracuse, Malta, Tripoli, Sfax, Bengasi, Tobruk. Genoa to Massowa and Zanzibar. Genoa to Palermo, Tunis, Malta, Tripoli, Bengasi and Alexandria.

TOYO KISEN KABUSHIKI KAISHA. (JAPANESE)

[8]

(ORIENTAL STEAMSHIP CO. LTD.)

Tokio.

## MOTOR VESSELS.

Getsuyo Maru.	'34.	7,500 tons.	Soyo Maru.	'31.	6,000 tons.
Nichiyo Maru.	'34.	7,500 tons.	Tenyu Maru.	'34.	7,500 tons.
Ryoyo Maru.	'31.	6,000 tons.	Uyo Maru.	'33.	7,500 tons.

## Some Well Known Shipping Companies

TOYO—(Contd.)

### STEAM SHIPS.

<b>Biyo Maru.</b>	'21.	5,500 tons.	<b>Juyo Maru.</b>	'26.	5,500 tons.
<b>Choyo Maru.</b>	'19.	5,500 tons.	<b>Koyo Maru.</b>	'19.	5,500 tons.
<b>Fukuyo Maru.</b>	'20.	5,500 tons.	<b>Reiyo Maru.</b>	'20.	5,400 tons.
<b>Hayo Maru.</b>	'21.	5,400 tons.	<b>Woyo Maru.</b>	'21.	5,500 tons.

**DISTINGUISHING FEATURES:**—*Hulls* : Black with white band. *Boot-topping* : Red.  
*Ventilators* : Reddish yellow. *Inside of Cows* : White. *Masts and Derricks* :  
 Reddish brown.

**SERVICES:**—*Passenger and Cargo.* Orient to New York. *General Tramping.*

## TRANSATLANTIC, REDERI A/B. (SWEDISH)

[13]

(TRANSATLANTIC S.S. CO. LTD.)

(G. CARLSSON.)

Gothenburg.

### MOTOR VESSELS.

<b>Bullaren.</b>	'18.	5,700 tons.	<b>Kaaparen.</b>	'30.	3,200 tons.
<b>Eknaren.</b>	'22.	5,200 tons.	<b>Klipparen.</b>	'35.	3,600 tons.
<b>Hallaren.</b>	'29.	2,700 tons.	<b>Kolsnaren.</b>	'23.	2,500 tons.
<b>Hammaren.</b>	'30.	3,200 tons.	<b>Malaren.</b>	'27.	2,700 tons.
<b>Hjelmaren.</b>	'22.	2,500 tons.	<b>Tisnaren.</b>	'18.	5,700 tons.
<b>Innaren.</b>	'24.	3,600 tons.	<b>Yngaren.</b>	'21.	5,200 tons.

## Ships and the Sea

TRANSATLANTIC—(Contd.)

### STEAM SHIPS.

<b>Anten.</b>	'20.	5,100 tons.	<b>Roxen.</b>	'21.	4,500 tons.
<b>Boren.</b>	'21.	4,500 tons.	<b>Sydic.</b>	'14.	4,300 tons.
<b>Faxen.</b>	'19.	4,100 tons.	<b>Tolken.</b>	'22.	4,500 tons.
<b>Nordic.</b>	'14.	4,300 tons.	<b>Unden.</b>	'20.	4,300 tons.

(REDERI A/B TRANSPACIFIC.)

### MOTOR VESSELS.

<b>Mirrabooka.</b>	'28.	5,700 tons.	<b>Parrakoola.</b>	'28.	5,800 tons.
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(REDERI A/B TRANSMARK.)

[1]

TANKERS (with engines aft).

<b>Balaklava.</b>	'29.	8,000 tons.	<b>Cleopatra.</b>	'33.	6,500 tons.
		<b>Kalmia.</b>	'31.	8,200 tons.	

(REDERI A/B TRANSOIL.)

<b>Nike.</b>	'28.	9,800 tons.	<b>Pegasus.</b>	'30.	9,600 tons.
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**DISTINGUISHING FEATURES:**—*Hulls* : Silver grey. *Boot-topping* : Red. *Ventilators* : White. *Inside of Cows* : Red. *Masts and Derricks* : Cream.

**SERVICES:**—*Cargo with Limited Passenger Accommodation.* Sweden, Norway, Denmark and Finland to South Africa, Australia and East Coast of North America. West Coast of North America to Australia. South Africa to Australia. *Petroleum trade.*

## Some Well Known Shipping Companies

### TRANSATLANTIQUE, COMPAGNIE GÉNÉRALE. (FRENCH) [12] (C. G. T.) (THE FRENCH LINE.) Paris.

#### PASSENGER SHIPS.

Champlain.	'31.	28,900 tons.	Lamoricière.	'21.	4,700 tons.
Colombie.	'31.	13,400 tons.	Mexique.	'15.	12,000 tons.
Cuba.	'23.	11,200 tons.	Normandie.		
De Grasse.	'24.	18,400 tons.	(T.E.V.)	'35.	82,800 tons.
De la Salle..	'21.	8,400 tons.	Paris.	'21.	34,600 tons.
Duc d'Aumale.	'12.	4,500 tons.	Pellerin de		
Flandre.	'14.	8,500 tons.	Latouche.	'13.	8,200 tons.
Floride.	'21.	7,000 tons.	Président Dal		
Guadeloupe.	'08.	10,500 tons.	Piaz.	'29.	4,900 tons.
Ile de France.	'26.	43,200 tons.	Ville d'Alger.	'35.	10,200 tons.
Lafayette (M.V.).	'29.	25,200 tons.	Ville d'Oran.	'36.	10,200 tons.

#### CARGO VESSELS.

Alabama.	'31.	5,600 tons.	Carbet.	'20.	3,700 tons.
Alaska.	'22.	5,400 tons.	Carimaré.	'20.	4,500 tons.
Antilles.	'12.	2,100 tons.	Indiana.	'15.	5,800 tons.
Arica.	'21.	5,400 tons.	Kentucky.	'21.	6,800 tons.
Arizona.	'25.	5,400 tons.	Louisiane.	'21.	6,900 tons.
Cantal.	'16.	3,100 tons.	(Twin masts).		

## Ships and the Sea

TRANSATLANTIQUE—(Contd.)

Marrakech.	'13.	6,200 tons.	San Antonio.	'30.	6,000 tons.
Meknes.	'13.	6,100 tons.	San Diego.	'30.	6,000 tons.
Michigan.	'20.	6,400 tons.	San Francisco.	'30.	6,000 tons.
Minotaure.	'20.	900 tons.	San José.	'30.	6,000 tons.
Miranda.	'20.	1,100 tons.	San Mateo.	'31.	5,900 tons.
Missouri.	'20.	6,800 tons.	San Pedro.	'31.	5,900 tons.
Nevada.	'18.	5,700 tons.	Washington		
Oregon (M.V.)	'29.	7,700 tons.	(M.V.)	'29.	7,700 tons.
Saint André.	'12.	5,300 tons.	Winnipeg.	'18.	8,400 tons.
Saint Domingue.	'11.	3,100 tons.	Wisconsin.	'29.	8,100 tons.
Wyoming.	'30.	8,100 tons.			

(COMPAGNIE GÉNÉRALE D'ARMEMENT MARITIMES.)

Allier.	'32.	4,300 tons.	Grande-Terre.	'32.	1,900 tons.
Ardèche.	'31.	4,200 tons.	Petite Terre.	'30.	1,600 tons.
Aveyron.	'23.	4,800 tons.	Saint Clair.	'29.	3,800 tons.
Basse Terre.	'30.	1,600 tons.	Saint Tropez.	'19.	2,300 tons.
Sainte Maxime.	'11.	4,200 tons.			

**DISTINGUISHING FEATURES:**—*Hulls* : Black except “Colombie” and “Cuba” which have white. *Boot-topping* : Red except above two ships which have green. *Ventilators* : White. *Inside of Cowls* : Red.

**SERVICES:**—*Mail, Passenger and Cargo.* Havre via Plymouth to New York. Bordeaux via Vigo and Halifax to New York. Havre to Cuba and Mexico. Havre to Gdynia. Havre to Havana, Cuba, Venezuela, Colombia, Panama and Pacific ports. Marseilles to Morocco, Algeria and North African ports.

# Some Well Known Shipping Companies

## TRANSPORTS MARITIMES À VAPEUR, SOCIÉTÉ GÉNÉRALE DE [10] Marseilles.

### PASSENGER SHIPS.

Alsina.	'21.	8,400 tons.
Campana.	'29.	10,800 tons.
Florida.	'26.	9,300 tons.
Mendoza.	'20.	8,200 tons.
Sidi Bel Abbés.	'29.	4,400 tons.
Sidi Brahim.	'10.	2,400 tons.
Sidi Mabrouk.	'06.	3,900 tons.
(Operated on behalf of French Government.)		
Gouverneur Général		
Lafferiére.	'23.	3,500 tons.

### CARGO VESSELS.

Capitaine Paul		
Lemerle.	'21.	4,900 tons.
Mont Agel.	'20.	4,600 tons.
Mont Everest.	'18.	5,100 tons.
Mont Viso.	'21.	4,500 tons.
Sidi-Aissa.	'27.	2,600 tons.
Sidi Okba.	'29.	2,800 tons.

(COMPAGNIE DE NAVIGATION FRANCE-AMERIQUE.) [3]

Guaruja.	'21.	4,300 tons.
Ipanema.	'21.	4,300 tons.



## Ships and the Sea

TRANSPORTS MARITIMES—(Contd.)

**DISTINGUISHING FEATURES:**—*Hulls* : Black. *Boot-topping* : Red. *Masts and Derricks* : Grey. *Ventilators* : White. *Inside of Cows* : Red.

**SERVICES:**—*Mail, Passenger and Cargo.* Marseilles to Barcelona, Valencia, Alicante, Almeria. Dakar, Rio de Janeiro, Santos, Montevideo, Buenos Aires. Marseilles to Spain, Montevideo, Buenos Aires, Rosario. *Cargo only.* Same as above; also, Marseilles and Spain to New Orleans. Marseilles to North African ports.

### TRASATLANTICA, COMPAÑIA. (SPANISH) Barcelona.

[1]

Antonio Lopez.	'91.	6,000 tons.	Manuel Arnus.	'23.	7,600 tons.
Argentina.	'13.	10,137 tons.	Manuel Calvo.	'92.	5,600 tons.
Buenos Aires.	'87.	5,200 tons.		(3 masts.)	
Cristóbal Colón.	'23.	10,800 tons.	Marques de		
Habana.	'23.	10,600 tons.	Comillas.	'28.	9,900 tons.
Juan Sebastian			Montevideo.	'89.	5,200 tons.
Elcano.	'28.	10,000 tons.		(3 masts.)	
Magallanes.	'28.	9,700 tons.	Uruguay.	'13.	10,300 tons.

**DISTINGUISHING FEATURES:**—*Hulls*: Black. *Boot-topping*: Red. *Ventilators*: Black. *Inside of Cows*: Red.

**SERVICES:**—*Passenger, Mail and Cargo.* Spanish ports to Portugal and South American ports. Spanish ports to New York and Cuba. Spanish ports to Canary Islands and Central American ports. Spanish ports to West Coast of South America.

# Some Well Known Shipping Companies

## TRASMEDITERRANEA, COMPAÑIA.\*

(SPANISH) [11]

Barcelona.

### PASSENGER SHIPS (Motor).

Ciudad de Algeciras.	'27.	800 tons.	Ciudad de Malaga.	'31.	1,600 tons.
Ciudad de Alicante.	'30.	2,400 tons.	Ciudad de Palma.	'30.	4,000 tons.
Ciudad de Barcelona.	'29.	4,000 tons.	Ciudad de Sevilla.	'27.	6,300 tons.
Ciudad de Cadiz.	'29.	4,600 tons.	Ciudad de Tarragona.	'33.	1,600 tons.
Ciudad de Ceuta.	'28.	900 tons.	Ciudad de Valencia.	'30.	2,500 tons.
Ciudad de Ibiza.	'32.	2,000 tons.	Domine.	'36.	6,900 tons.
Ciudad de Mahon.	'30.	1,600 tons.	Fernando Poo.	'34.	6,900 tons.

### PASSENGER SHIPS (Steam).

Ciudad de Melilla.	'07.	1,200 tons.	Isla de Tenerife.	'21.	5,100 tons.
Isla de Gran Canaria.	'21.	5,100 tons.	Legazpi.	'04.	4,300 tons.

### CARGO VESSELS.

Alhambra.	'08.	1,700 tons.	Rey Jaime I.	'11.	2,300 tons.
Aragon.	'02.	1,900 tons.	Rey Jaime II.	'06.	1,400 tons.
Capitan Segarra.	'18.	2,300 tons.	Rio Francoli.	'09.	2,300 tons.
Escolano.	'19.	3,100 tons.	Rio Miño.	'15.	2,900 tons.
Generalife.	'08.	3,400 tons.	Rio Navia.	'15.	2,900 tons.
Jacinto Verdaguer.	'00.	1,600 tons.	Rio Segre.	'21.	2,700 tons.
Mallorca.	'14.	2,200 tons.	Rio Tajo.	'17.	3,400 tons.
Navarra.	'08.	1,700 tons.	Romeu.	'18.	3,100 tons.
Plus Ultra.	'28.	4,300 tons.	Torras y Bages.	'02.	1,300 tons.
Poeta Arolas.	'19.	3,300 tons.	Villa de Madrid (M.V.)	'31.	6,900 tons.

## Ships and the Sea

TRASMEDITERRANEA—(Contd.)

**DISTINGUISHING FEATURES:**—*Hulls* : Passenger ships white, others black. *Boot-topping* : Red.

**SERVICES:**—*Passenger and Cargo*. Barcelona to the Canary Islands. Barcelona to the Balearic Islands and other Spanish ports.

### TYNE-TEES STEAM SHIPPING CO. LTD. (BRITISH) [63]

Newcastle-on-Tyne.

PASSENGER SHIP.

**New Londoner.** '12. 1,400 tons.

CARGO VESSELS.

<b>Dunstanburgh.</b>	'12.	1,100 tons.	<b>Lindisfarne.</b>	'25.	1,000 tons.
<b>Gateshead.</b>	'17.	700 tons.	<b>Middlesbro'.</b>	'24.	1,000 tons.
(3 masts.)			<b>Newminster.</b>	'25.	1,000 tons.

CARGO VESSELS (with engines aft).

<b>Akeld.</b>	'22.	600 tons.	<b>Crag. (3 masts.)</b>	'03.	500 tons.
(3 masts.)			<b>Cragside.</b>	'35.	500 tons.
<b>Alnnick (M.V.)</b>					
<b>Bamburgh.</b>	'14.	600 tons.	<b>Craster.</b>	'35.	800 tons.
<b>Beal (M.V.).</b>	'36.	tons.	<b>Glen. (M.V.)</b>	'35.	tons.
<b>Biltno.</b>	'20.	700 tons.	<b>Lowick.</b>	'09.	600 tons.

**Thornaby.** '35. 1,100 tons.

**DISTINGUISHING FEATURES:**—*Hulls* : Black (at one time grey). *Boot-topping* : Red. *Ventilators* : Black. *Inside of Cowls* : Red. *Masts and Derricks* : Cream.

**SERVICES:**—*Passenger and Cargo*. Newcastle to London, Antwerp, Rotterdam, Ghent and Terneuzen.

## Some Well Known Shipping Companies

### UNION-CASTLE MAIL STEAMSHIP COMPANY LTD., THE (BRITISH) [155] (U.C.)

London, E.C.3.

#### MAIL VESSELS FROM SOUTHAMPTON

##### MOTOR.

<b>Athlone Castle.</b>	'36.	25,500 tons.	<b>Stirling Castle.</b>	'36.	25,500 tons.
<b>Carnarvon Castle.</b>	'26.	20,100 tons.	<b>Warwick Castle.</b>	'30.	20,400 tons.
<b>Winchester Castle.</b>	'30.	20,100 tons.			

##### STEAM.

<b>*Armadale Castle.</b>	'03.	13,000 tons.	<b>Edinburgh Castle.</b>	'10.	13,300 tons
<b>Arundel Castle.</b>	'21.	19,000 tons.	<b>*Kenilworth Castle.</b>	'04.	13,000 tons.
<b>Balmoral Castle.</b>	'10.	13,400 tons.	<b>Windsor Castle.</b>	'22.	19,000 tons.

\* In reserve

#### INTERMEDIATE PASSENGER VESSELS FROM LONDON.

##### MOTOR.

<b>Dunbar Castle.</b>	'30.	10,000 tons.	<b>Dunvegan Castle.</b>	'36.	15,000 tons.
<b>Dunnottar Castle.</b>	'36.	15,000 tons.	<b>Llangibby Castle.</b>	'29.	12,000 tons.

##### STEAM.

<b>Dunluce Castle.</b>	'04.	8,100 tons.	<b>Grantully Castle.</b>	'09.	7,600 tons.
<b>Durham Castle.</b>	'04.	8,200 tons.	<b>Llandaff Castle.</b>	'26.	10,800 tons.
<b>Garth Castle.</b>	'10.	7,700 tons.	<b>Llandovery Castle.</b>	'25.	10,600 tons.
<b>Gloucester Castle.</b>	'11.	8,000 tons.	<b>Llanstephan Castle.</b>	'14.	11,300 tons.

## Ships and the Sea

UNION-CASTLE—(Contd.)

### CARGO VESSELS.

<b>Dromore Castle.</b>	'19.	5,200 tons.
<b>Dundrum Castle.</b>	'19.	5,300 tons.
<b>Roslin Castle (M.V.).</b>	'35.	7,000 tons.
<b>Rothersey Castle</b> <b>(M.V.).</b>	'35.	7,000 tons.
<b>Sandgate Castle.</b>	'22.	7,600 tons.
<b>Sandown Castle.</b>	'21.	7,600 tons.

**DISTINGUISHING FEATURES:**—*Hulls* : Lavender-grey (some cargo ships have black). *Boot-topping* : Reddish brown. *Ventilators* : White. *Inside of Cows* : Red. *Names* : All "Castles." "Saxon" (broken up 1935) was last of old Union Co., whose vessels used to have plain yellow funnels. The names of all ships are painted very distinctly in yellow, outlined in black.

**SERVICES:**—*Mail*. Southampton to Madeira, Capetown, Port Elizabeth, East London and Durban (calling at Mossel Bay homewards on alternate weeks). *Intermediate* :—London and Plymouth to Las Palmas, Teneriffe, Ascension, St. Helena, Lobito, Capetown, Port Elizabeth, East London, Durban, Lourenço Marques and Beira, returning by East Coast route.

*East African* :—London to Gibraltar, Tangier, Marseilles, Palma, Genoa, Port Said, Suez, East African ports, connecting with mail vessels at Durban and returning by West Coast route.

*Cargo* :—New York to South and East Africa and Mauritius. Glasgow to the Cape (direct).

## Some Well Known Shipping Companies

### UNION STEAM SHIP COMPANY OF NEW ZEALAND LTD.

(U.S.N.Z.) (BRITISH) [166 & 168]

(CANADIAN AUSTRALASIAN LINE LTD.)

(UNION ROYAL MAIL LINE.)

Wellington, New Zealand.

#### PASSENGER SHIP (Motor).

**Aorangi.** '24. 17,500 tons. (Canadian Australasian.)

#### PASSENGER SHIPS (Steam).

**Awatea.** '36. 14,000 tons. **Monowai.** '26. 10,900 tons.

**Makura.** '08. 8,100 tons. **Niagara.** '13. 13,400 tons.

**Maori.** '07. 3,500 tons. (Canadian Australasian.)

**Marama.** '07. 6,500 tons. **Rangatira**

(T.E.V.). '31. 6,200 tons.

**Maunganui.** '11. 7,500 tons. **Wahine.** '13. 4,400 tons.

**Wainui.** '30. 1,600 tons.

**DISTINGUISHING FEATURES:—Hulls :** Green with gold band. *Boot-topping :* Red.

*Ventilators :* White (small vents brown). *Inside of Cowls :* Red. *Names :* Maori

names.

#### CARGO VESSELS (Motor).

**Hauraki.** '22. 7,100 tons. **Limerick.** '25. 8,700 tons.

**Kauri.** '36. 2,400 tons. **Matua.** '36. 3,900 tons.

## Ships and the Sea

UNION S.S. Co.—(Contd.)

		CARGO VESSELS (Steam).	
Kaikorai.	'18.	3,200 tons.	Kowhai. '10. 800 tons.
Kaimai.	'24.	1,400 tons.	Narbada. '15. 9,000 tons.
Kaimiro.	'29.	2,600 tons.	Omana. '15. 2,600 tons.
Kairanga.	'22.	2,800 tons.	Opihi. '86. 1,100 tons.
Kaiwarra.	'19.	3,100 tons.	Poolta. '21. 1,700 tons.
Kakariki.	'26.	900 tons.	Talune. '30. 2,700 tons.
Kalingo.	'27.	2,000 tons.	Waikouaiti. '14. 3,900 tons.
Kanna.	'11.	1,900 tons.	Waimarino. '30. 3,100 tons.
Karepo.	'29.	2,600 tons.	Waimea. '09. 500 tons.
Karetu.	'24.	3,200 tons.	Waiotapu. '13. 6,000 tons.
Kartigi.	'25.	2,300 tons.	Waipahi. '25. 1,800 tons.
Karu (M.V.).	'35.	1,100 tons.	Waipiata. '26. 2,800 tons.
Kekerangu.	'19.	3,100 tons.	Wairuna. '14. 5,800 tons.
Kini.	'30.	1,400 tons.	Waitaki. '34. 2,200 tons.
Kiwitea.	'25.	2,300 tons.	Wingatui. '14. 2,400 tons.
Koranui.	'14.	1,300 tons.	

**DISTINGUISHING FEATURES** (Cargo vessels):—*Hulls* : Black. *Boot-topping* : Red (with a white dividing line in some ships). *Upperworks* : Buff in most cases. *Ventilators* : Brown. *Names* : Mostly "Maori" names commencing with "K" or "W." "Limerick" is operated in the U.K.-Australia trade by the Federal Steam Navigation Co.

**SERVICES**:—*Mail and Passenger*. Sydney to Vancouver via Auckland, Fiji and Honolulu, maintained by the Canadian Australasian Line. Sydney to San Francisco via Wellington, Raratonga and Tahiti, maintained by the Union Royal Mail Line. New Zealand Coastal and Inter-Island Services. New Zealand to Tasmania and Australia.



## Some Well Known Shipping Companies

### UNITED BALTIC CORPORATION LTD. (BRITISH) [134] (ANGLO-BALTIC LINE.) (" U.B.C.") London, E.C.3.

Baltallin.	'20.	1,300 tons.	Balteako.	'20.	1,300 tons.
Baltannic.	'13.	1,700 tons.	Baltrader.	'19.	1,700 tons.
Baltara.	'18.	3,300 tons.	Baltraffic.	'18.	3,300 tons.
		Bal'rover.	'13.	4,900 tons.	

**DISTINGUISHING FEATURES:**—*Hulls* : Black. *Boot-topping* : Green with white dividing line. *Ventilators* : Cream. *Inside of Cowls* : Blue. *Masts and Derricks* : Cream. *Names* : All have prefix "Balt."

**SERVICES:**—*Passenger and Cargo*. London via Kiel to Danzig, Gdynia, Klaipeda (Memel), Riga and Tallin (Reval).

### UNITED FRUIT CO. (U.S.A.) [29] (THE GREAT WHITE FLEET.) Boston, Mass.

Some of these vessels fly Panama or other foreign flags.

(BALBOA SHIPPING CO. INC.)					
Darien (T.E.V.).	'24.	4,300 tons.	Musa.	'30.	5,900 tons.
La Playa (T.E.V.).	'23.	3,700 tons.	Platano.	'30.	6,000 tons.
Macabi.	'21.	2,800 tons.	San Benito (T.E.V.).	'21.	3,700 tons.
Manaqui.	'21.	2,800 tons.	San Blas.	'20.	3,600 tons.
Maravi.	'21.	2,800 tons.	San Bruno.	'20.	3,600 tons.
Mayari.	'21.	2,800 tons.	San Gil.	'20.	3,600 tons.
		San Pablo.	'15.	3,300 tons.	

# Ships and the Sea

UNITED FRUIT—(Contd.)

(MAYAN S.S. CORP.)

Argual.	'27.	2,500 tons.	Iriono.	'27.	4,100 tons.
Baja California.	'14.	1,600 tons.	Lempira.	'14.	3,300 tons.
Castilla.	'27.	4,100 tons.	Nicarao.	'20.	1,400 tons.
Choloteca.	'21.	2,500 tons.	Olancho.	'21.	2,500 tons.
Comayagua.	'21.	2,500 tons.	Orotava.	'27.	2,600 tons.
Cuyamapa.	'14.	3,300 tons.	Tela.	'27.	4,100 tons.
Hibueras.	'20.	1,400 tons.	Telde.	'27.	2,600 tons.

(UNITED FRUIT S.S. CORP.)

Abangarez.	'09.	4,700 tons.	Sogua.	'14.	3,300 tons.
Calamares.	'13.	7,200 tons.	San José.	'04.	3,400 tons.
Carrillo.	'11.	4,700 tons.	San Mateo.	'15.	3,300 tons.
Coppename.	'08.	3,400 tons.	Santa Marta.	'09.	4,700 tons.
Esparta.	'04.	3,400 tons.	Saramacca.	'08.	3,200 tons.
General Lee.	'08.	4,700 tons.	Sixaola.	'11.	4,700 tons.
General Pershing.	'08.	4,700 tons.	Suriname.	'08.	3,200 tons.
General Sherman.	'08.	4,700 tons.	Tivives.	'11.	4,700 tons.
La Perla.	'25.	3,800 tons.	Toloo.	'17.	6,500 tons.
Limon.	'04.	3,400 tons.	Turrialba.	'09.	4,700 tons.
Metapan.	'09.	4,700 tons.	Ulua.	'17.	6,500 tons.
Pastores.	'12.	7,200 tons.	Zacapa.	'09.	4,700 tons.

(UNITED FRUIT TANKER CORP.)

Camden.	'21.	6,700 tons. (Tanker; engines aft.)
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## Some Well Known Shipping Companies

(UNITED MAIL S.S. Co.)

## PASSENGER SHIPS.

Antigua.	'32.	7,000 tons.	Quirigua.	'32.	7,000 tons.
Chiriqui.	'32.	7,000 tons.	Talamanca.	'31.	7,000 tons.
Peten.	'33.	7,000 tons.	Veragua.	'32.	7,000 tons.

DISTINGUISHING FEATURES:—*Hulls* : White. *Boot-topping* : Red. *Ventilators* : Buff. *Inside of Cowls* : Red. *Masts and Derricks* : Buff. Some of the ships fly the Panaman or Honduras flag.

SERVICES:—*Passenger and Cargo*. New Orleans to all West Indian, Central American and Panaman ports.

**VEREENIGDE NEDERLANDSCHE SCHEEPVAART MAATSCHAPPIJ,  
NAAMLOOZE VENNOOTSCHAP. (DUTCH)**

[16]

(UNITED NETHERLANDS STEAM NAVIGATION Co.)

Controlled jointly by the following Companies:—

S.M. NEDERLAND.  
KONINKLIJKE NEDERLANDSCHE S.M.  
JAVA-CHINA-JAPAN LIJN.  
KONINKLIJKE PAKETVAART M.  
NEDERLANDSCH AMERIKA LIJN.  
ROTTERDAMSCH LLOYD, S.M.  
“DE MAAS,” N.M.S.M.  
Gravenhaage (The Hague) Holland.

## Ships and the Sea

VEREENIGDE—(Contd.)

Maintains the following services:—

“ HOLLAND AFRIKA LIJN ” N.V. DIRECTIE-EN-AGENTUUR MAATS.  
(HOLLAND AFRICA LINE.)  
Amsterdam.

### PASSENGER SHIPS (Motor).

<b>Bloemfontein.</b>	'34.	10,100 tons.	<b>Boschfontein.</b>	'28.	7,100 tons.
		<b>Jagersfontein.</b>	'34.	10,100 tons.	

### PASSENGER SHIPS (Steam).

<b>Holland.</b>	'23.	900 tons.	<b>Nijkerk.</b>	'15.	5,800 tons.
<b>Heemskerk.</b>	'19.	6,500 tons.	<b>Randfontein.</b>	'22.	5,500 tons.
<b>Meliskerk.</b>	'19.	5,900 tons.	<b>Springfontein.</b>	'21.	6,400 tons.

SERVICES:—Hamburg, Amsterdam, Rotterdam and Antwerp to Cape Town, Port Elisabeth, East London, Durban, Lourenco Marques, Beira via West Coast and return via British East African ports and Suez Canal. Hamburg, Amsterdam and Antwerp to Port Said, Port Sudan, Mombasa, Tanga, Zanzibar, Dar-Es-Salaam, Mozambique and Beira, returning via South African ports.

“ HOLLAND-OOST-AZIE LIJN ” N.V. DIRECTIE-EN-AGENTUUR M.  
(HOLLAND EAST ASIA LINE.)  
Rotterdam.

### PASSENGER SHIPS.

<b>Gaasterkerk.</b>	'22.	8,700 tons.	<b>Serooskerk.</b>	'22.	6,600 tons.
<b>Grootekerk.</b>	'23.	8,700 tons.	<b>Zuiderkerk.</b>	'22.	6,600 tons.
<b>Meerkerk</b>	'16.	8,000 tons.			

SERVICES:—Antwerp, Hamburg, Amsterdam and Rotterdam to Genoa, Port Said, Colombo, Singapore, Manila, Hong Kong, Shanghai, Yokohama, Kobe, Dalny, Taku Bar, Tientsein, Tsingtau.

## Some Well Known Shipping Companies

VEREENIGDE—(*Contd.*)

“HOLLAND-AUSTRALIE LIJN” N.V. DIRECTIE-EN-AGENTUUR M.  
(HOLLAND AUSTRALIA LINE.)  
Rotterdam.

<b>Aagtekerk.</b>	'34.	6,800 tons.	<b>Almkerk.</b>	'34.	6,800 tons.
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SERVICES:—Bremen, Hamburg, Rotterdam, Amsterdam and Antwerp to Fremantle  
Adelaide, Melbourne, Sydney and Brisbane.

“HOLLAND-BRITSCH-INDIE LIJN” N.V. DIRECTIE-EN-AGENTUUR M.  
(HOLLAND BRITISH INDIA LINE.)  
Rotterdam.

<b>Hoogkerk.</b>	'11.	5,100 tons.	
<b>Meerkerk.</b>	'16.	7,800 tons.	(Four masts.)
<b>Streefkerk.</b>	'21.	6,200 tons.	

SERVICES:—Bremen, Hamburg, Antwerp, Rotterdam, Amsterdam to Port Said,  
Suez, Colombo, Madras, and Calcutta. Bremen, Hamburg, Antwerp, Rotterdam,  
Amsterdam to Port Said, Suez, Karachi and Bombay.

“HOLLAND WELT-AFRIKA LIJN” N.V. [15]  
(HOLLAND WEST AFRICA LINE.)  
Amsterdam.

<b>Amstelkerk.</b>	'29.	4,300 tons.	<b>Maaskerk.</b>	'29.	4,300 tons.
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DISTINGUISHING FEATURES (of all Vereenigde ships):—*Hulls* : Black. *Boot-topping* :  
Pink. *Ventilators* : Some black, some brown. Inside Red. *Names* : End in  
“-kerk” or “-tein.”

SERVICES:—Hamburg, Amsterdam and Rotterdam to Freetown, Takoradi, Accra,  
Cape Coast Castle, Winnebah, Lagos, Appaa, Port Harcourt, Daal Calaabar, Santa  
Isabel. Bremen, Hamburg, Amsterdam and Rotterdam to Gold Coast and Cameroon.  
Bremen, Hamburg, Amsterdam and Rotterdam to Liberia and Benin.

## Ships and the Sea

**WEIR, ANDREW, & CO. (BRITISH)**  
(BANK LINE LTD.)  
London, E.C.3.

[239]

### MOTOR SHIPS.

<b>Alynbank.</b>	'25.	5,200 tons.	<b>Larchbank.</b>	'25.	5,200 tons.
<b>Birchbank.</b>	'24.	5,200 tons.	<b>Levernbank.</b>	'25.	5,200 tons.
<b>Cedarbank.</b>	'24.	5,200 tons.	<b>Lossiebank.</b>	'30.	5,600 tons.
<b>Clydebank.</b>	'25.	5,200 tons.	<b>Myrtlebank.</b>	'25.	5,200 tons.
<b>Comliebank.</b>	'24.	5,100 tons.	<b>Nairnbank.</b>	'25.	5,200 tons.
<b>Elmbank.</b>	'25.	5,200 tons.	<b>Oakbank.</b>	'26.	5,200 tons.
<b>Forresbank.</b>	'25.	5,200 tons.	<b>Olivebank.</b>	'26.	5,200 tons.
<b>Foylebank.</b>	'30.	5,600 tons.	<b>Speybank.</b>	'26.	5,200 tons.
<b>Glenbank.</b>	'24.	5,200 tons.	<b>Springbank.</b>	'26.	5,200 tons.
<b>Inverbank.</b>	'24.	5,100 tons.	<b>Taybank.</b>	'30.	5,600 tons.
<b>Irisbank.</b>	'30.	5,600 tons.	<b>Tweedbank.</b>	'30.	5,600 tons.
<b>Kelvinbank.</b>	'21.	3,900 tons.	<b>Tynebank.</b>	'34.	4,700 tons.
<b>Laganbank.</b>	'30.	5,600 tons.	<b>Weirbank.</b>	'25.	5,200 tons.

### (INDIAN AFRICAN LINE.)

[240]

### MOTOR SHIPS.

<b>Congella.</b>	'14.	4,500 tons.	<b>Incomati.</b>	'34.	7,400 tons.
<b>Gujarat.</b>	'23.	4,100 tons.	<b>Isipingo.</b>	'33.	7,100 tons.
<b>Inchanga.</b>	'33.	7,100 tons.	<b>Kathiawar.</b>	'24.	4,200 tons.
<b>Luxmi.</b>	'24.	4,100 tons.			

## Some Well Known Shipping Companies

WEIR—(Contd.)

### STEAMERS.

<b>Aymeric.</b>	'19.	5,200 tons.	<b>Lindenbank.</b>	'30.	5,100 tons.
<b>Cabarita.</b>	'15.	4,400 tons.	<b>Luceric.</b>	'19.	6,700 tons.
<b>Deebank.</b>	'29.	5,100 tons.	<b>Tinhow.</b>	'13.	5,200 tons.
<b>Forthbank.</b>	'29.	5,100 tons.	<b>Trentbank.</b>	'29.	5,100 tons.
<b>Glenardle.</b>	'21.	4,600 tons.	<b>Tymeric.</b>	'19.	5,200 tons.

### TANKERS.

<b>Corabank. (M.V.).</b>	'30.	9,000 tons.	<b>Oyleric.</b>	'14.	6,100 tons.
<b>Gymeric.</b>	'17.	6,100 tons.	<b>Wyneric.</b>	'14.	4,500 tons.

**DISTINGUISHING FEATURES:**—*Hulls* : Black except "I" Class, which are white with buff riband. *Boot-topping* : Red except "I" Class, which have green. *Masts and Derricks* : Buff except "I" Class, which are white. *Upperworks and Boats* : Buff except "I" Class, which are white. *Names* : Mostly have suffix "bank" or "eric."

**SERVICES:**—" *American and Indian Line.*" Calcutta, Chittagong, Rangoon and Colombo to Halifax, Boston, New York, Philadelphia and Baltimore. " *American and Indian Branch Service.*" Rangoon, Chittagong, Madras, Madras Coast, Colombo and Malabar Coast (filling up if necessary at Aden and Port Sudan) to Halifax, Boston, New York, Philadelphia and Baltimore. " *American and Oriental Line.*" New York and California to Philippines, Japan, China, Java and Straits Settlements, returning to U.S.A. via Suez. " *Bombay American Line.*" Bombay to New York and Philadelphia. *Calcutta to River Plate Ports* :—Calcutta to Santos, Montevideo, Buenos Aires, Rosario and Bahia Blanca. " *Indian African Line.*"—India-Natal Line:—Carrying passengers and cargo; including in its itinerary Rangoon, Calcutta, Colombo, Beira, Madagascar (when opportunity offers), Lourenço Marques, Durban,



## Ships and the Sea

WEIR—(Contd.)

East London, Port Elizabeth, Mossel Bay and Cape Town. "*Indian Chilian Line.*" Calcutta, Rangoon and Singapore to West Coast South American Ports. "*Oriental African Line.*" Carrying passengers and cargo from Hong Kong, Bangkok, Singapore to Mauritius, Reunion, Madagascar, Lourenço Marques, Durban, East London, Port Elizabeth, Mossel Bay and Cape Town and *vice versa*. Taking cargo on through B.L. from Japan and China. "*Gulf S.A. Line.*" U.S.A. and Gulf ports to S. and E. African ports. Regular sailings from Australia to Chile. Regular sailings from Australia to Peru.

### WESTFAL-LARSEN & CO., A/S. (NORWEGIAN) [32] Bergen.

#### MOTOR VESSELS.

Berganger.	'32.	6,800 tons.	Høyanger.	'26.	4,600 tons.
Brandanger.	'26.	4,600 tons.	Moldanger.	'33.	6,800 tons.
Brimanger.	'29.	4,900 tons.	Taranger.	'30.	4,800 tons.
Heranger.	'30.	4,900 tons.	Trondanger.	'32.	6,800 tons.
Hindanger.	'29.	4,900 tons.	Villanger.	'29.	4,900 tons.

#### TANKERS (Motor).

Finnanger.	'28.	9,600 tons.	Orkanger.	'28.	8,000 tons.
Hallanger.	'28.	9,600 tons.	Spinanger.	'27.	7,400 tons.
Langanger.	'30.	9,200 tons.	Storanger.	'30.	9,200 tons.
Nordanger.	'25.	9,300 tons.	Varanger.	'25.	9,400 tons.

## Some Well Known Shipping Companies

WESTFAL-LARSEN—(Contd.)

### STEAM SHIPS.

<b>Evanger.</b>	'20.	3,900 tons.	<b>Porsanger.</b>	'18.	4,300 tons.
<b>Hardanger.</b>	'24.	4,000 tons.	<b>Ravnanger.</b>	'19.	3,400 tons.
<b>Hosanger.</b>	'11.	1,600 tons.	<b>Risanger.</b>	'21.	5,500 tons.
<b>Kaupanger.</b>	'30.	1,600 tons.	<b>Samnanger.</b>	'18.	4,300 tons.
<b>Leikanger.</b>	'23.	4,000 tons.	<b>Torvanger.</b>	'20.	6,600 tons.

### TANKERS (Steam).

<b>Davanger.</b>	'22.	7,100 tons.	<b>Malmanger.</b>	'20.	7,100 tons.
DISTINGUISHING FEATURES:— <i>Hulls</i> : Grey. <i>Boot-topping</i> : Red. <i>Ventilators</i> : Yellow. <i>Inside of Cows</i> : Red. <i>Masts and Derricks</i> : Yellow. <i>Names</i> : All have suffix "Anger."					

SERVICES:—European ports to North Pacific ports. *Petroleum trade and tramping.*  
Until a short time ago the House Flag was a swallow-tailed pennant, red with broad blue strip in centre, with a narrow white at top and bottom of blue.

## WILHELMSEN, WILH.

[5]

Oslo.

### MOTOR VESSELS.

<b>America.</b>	'21.	4,900 tons.	<b>Talabot.</b>	'36.	6,800 tons.
(3 masts.)			<b>Talisman.</b>	'23.	4,800 tons.
<b>Tai-Ping.</b>	'29.	7,000 tons.	<b>Talleyrand.</b>	'27.	6,700 tons.
<b>Tai Ping Yang.</b>	'29.	6,900 tons.	<b>Tamerlane.</b>	'36.	7,000 tons.
<b>Tai-Shan.</b>	'29.	6,800 tons.	<b>Tampa.</b>	'23.	4,700 tons.
<b>Tai-Yang.</b>	'29.	7,100 tons.	<b>Tancred.</b>	'25.	6,100 tons.
<b>Tai-Yin.</b>	'29.	7,100 tons.	<b>Tarn.</b>	'33.	6,800 tons.
<b>Taiwan.</b>	'24.	5,500 tons.			

## Ships and the Sea

WILHELMSEN—(Contd.)

<b>Taronga.</b>	'27.	7,000 tons.	<b>Toledo.</b>	'26.	4,600 tons.
<b>Taurus.</b>	'36.	5,000 tons.	<b>Topeka.</b>	'25.	5,000 tons.
<b>Temeraire.</b>	'27.	6,500 tons.	<b>Toronto.</b>	'28.	5,000 tons.
<b>Templar.</b>	'29.	6,700 tons.	<b>Tortugas.</b>	'23.	4,700 tons.
<b>Teneriffa.</b>	'22.	5,700 tons.	<b>Toulouse.</b>	'34.	7,200 tons.
(3 masts.)			<b>Touraine.</b>	'25.	5,800 tons.
<b>Tennessee.</b>	'22.	5,700 tons.	<b>Tourcoing.</b>	'24.	5,800 tons.
<b>Thalatta.</b>	'22.	5,700 tons.	<b>Trianon.</b>	'26.	5,800 tons.
(3 masts.)			<b>Tricolor.</b>	'33.	6,900 tons.
<b>Thermopylae.</b>	'30.	6,700 tons.	<b>Triton.</b>	'30.	6,600 tons.
<b>Tigre.</b>	'26.	5,400 tons.	<b>Troja.</b>	'30.	6,700 tons.
<b>Tijuca.</b>	'26.	5,400 tons.	<b>Tudor.</b>	'30.	6,600 tons.
<b>Tiradentes.</b>	'22.	5,000 tons.	<b>Tungsha.</b>	'24.	5,500 tons.
<b>Titania.</b>	'23.	4,800 tons.			

### STEAM SHIPS.

<b>Bessa.</b>	'17.	7,800 tons.	<b>Tana.</b>	'21.	5,500 tons.
<b>Cubano.</b>	'21.	5,800 tons.	<b>Thode Fagelund.</b>	'20.	4,300 tons.
<b>Rinda.</b>	'17.	6,000 tons.	<b>Troubadour.</b>	'20.	4,500 tons.
<b>Simla.</b>	'17.	6,000 tons.	<b>Tugela.</b>	'21.	5,600 tons.

### TANKERS.

<b>La Habra.</b>	'14.	7,000 tons.	<b>Mirlo.</b>	'22.	7,500 tons.
<b>Mantilla.</b>	'16.	5,700 tons.	<b>Montana.</b>	'18.	7,000 tons.

**DISTINGUISHING FEATURES:**—*Hulls* : Black with white band. *Boot-topping* : Red.  
*Masts and Derricks* : White.

**SERVICES:**—*Mail, Passenger and Cargo.* Norway to most principal ports of United States between Portland and Galveston. Texas ports and New Orleans to Dunkirk.

## Some Well Known Shipping Companies

WILHELMSEN—(Contd.)

Scandinavian and Baltic ports to South Africa and Beira. Scandinavian, Baltic and Continental ports to British India, Ceylon, Burma, Java, Straits Settlements, China, Japan, Australia and New Zealand. New York to Brazil and River Plate.

New York to Norfolk, Los Angeles, Philippines, China and Japan.

### WOERMANN LINIE, AKTIENGESSELLSCHAFT (GERMAN) [23] Hamburg.

#### PASSENGER SHIPS.

Adolph Woermann.	'22.	8,600 tons.	Wahehe.	'22.	4,700 tons.
Wadai.	'22.	4,700 tons.	Wangoni.	'20.	7,800 tons.
		Watussi.	'28	9,600 tons.	

#### CARGO VESSELS.

Livadia.	'23.	3,100 tons.	Wagogo.	'15.	3,100 tons.
(Owned by Hamburg-Amerika Line.)			Wakama.	'21.	3,800 tons.
		Wameru.	'19.	4,100 tons.	

**DISTINGUISHING FEATURES:**—*Hulls* : Silver grey. *Boot-topping* : Red. *Ventilators* : Black. *Inside of Cowls* : Red. Some of the larger vessels may run in colours of Deutsche Ost Afrika Co. *Masts and Derricks* : Deep cream.

**SERVICES:**—*Mail, Passenger and Cargo.* Hamburg to West Africa.

## Ships and the Sea

**YBARRA & CO. (SPANISH)**

[3]

Seville.

### MOTOR VESSELS.

Cabo Palos.	'27.	6,300 tons.	Cabo San Agustin.	'31.	12,600 tons.
Cabo Quilites.	'27.	6,600 tons.	Cabo San Antonio.	'30.	12,300 tons.
		Cabo Santo Tome.	'31.	12,600 tons.	

### STEAM SHIPS.

Cabo Blanco.	'09.	2,200 tons.	Cabo Nao.	'93.	1,500 tons.
Cabo Carvoeiro.	'09.	2,000 tons.	Cabo Ortegál.	'19.	3,700 tons.
Cabo Cervera.	'12.	2,200 tons.	Cabo Quintres.	'16.	2,900 tons.
Cabo Corona.	'03.	1,500 tons.	Cabo Razo.	'26.	2,900 tons.
Cabo Creux.	'19.	3,700 tons.	Cabo Roche.	'22.	2,800 tons.
Cabo Cullera.	'82.	2,200 tons.	Cabo Sacratif.	'09.	2,200 tons.
Cabo Espartel.	'20.	3,700 tons.	Cabo San Sebastian.	'93.	1,600 tons.
Cabo Huertas.	'22.	2,800 tons.	Cabo Toriñana.	'03.	1,500 tons.
Cabo La Plata.	'08.	2,000 tons.	Cabo Tres Forcas.	'14.	2,300 tons.
Cabo Menor.	'12.	2,000 tons.	Cabo Villano.	'20.	3,800 tons.

**DISTINGUISHING FEATURES:**—*Hulls* : Black. *Boot-topping* : Red. *Ventilators* : Black. *Inside of Cowls* : Red. *Masts and Derricks* : All white. *Names* : Nearly all “Cabo.”

**SERVICES:**—*Passenger and Cargo.* Italy, France, Spain and Portugal to United States, Brazil, Uruguay, Argentina.

## Some Well Known Shipping Companies

### YEOWARD LINE LTD. (BRITISH)

[125]

Liverpool.

60, Haymarket, London, S.W.1. (D. H. Drakeford.)

<b>Aguila.</b>	'17.	3,300 tons.	<b>Alondra.</b>	'22.	3,400 tons.
<b>Alca.</b>	'27.	3,700 tons.	<b>Ardeola.</b>	'12.	3,100 tons.
	<b>Avoceta.</b>	'23.	3,400 tons.		

**DISTINGUISHING FEATURES:**—*Hulls* : Light grey; top strakes white. *Boot-topping* : Red. *Ventilators* : White. *Inside of Cowls* : Blue. *Names* : Spanish words beginning and ending in "A."

**SERVICES:**—*Passenger (First-class only) and Cargo.* Liverpool to North Spain, Portugal, Morocco, Madeira and Canary Islands.

## CHAPTER XLI

# Flags and Funnels of British and Foreign Companies

### BRITISH SHIPPING COMPANIES (*see pp. 562, 564, 566, 568, 570*)

	ILLUS.
ABERDEEN AND COMMONWEALTH LINE, LONDON . . . . .	207
ABERDEEN, NEWCASTLE AND HULL STEAM CO. LTD., DUNDEE . . . . .	112
ABERDEEN STEAM NAVIGATION CO. LTD., ABERDEEN . . . . .	203
ADELAIDE STEAMSHIP CO. LTD., ADELAIDE . . . . .	246
ALD SHIPPING CO. LTD., BRISTOL . . . . .	251
ALEXANDER, DAVID, AND SONS, GLASGOW . . . . .	267
ALLAN, BLACK AND CO., SUNDERLAND . . . . .	278
ANCHOR LINE (1935) LTD., GLASGOW . . . . .	23
ANGLO-AMERICAN OIL CO. LTD., LONDON . . . . .	152
ANGLO-EGYPTIAN MAIL LINE, LONDON . . . . .	196
ANGLO-SAXON PETROLEUM CO. LTD., LONDON . . . . .	241
ASIATIC STEAM NAVIGATION CO. LTD., LONDON . . . . .	212
AUSTRALIAN-ORIENTAL LINE LTD., SYDNEY . . . . .	209
AUSTRALIAN STEAMSHIPS PROPRIETARY LTD., SYDNEY . . . . .	271
AUSTRALASIAN UNITED STEAM NAVIGATION CO. LTD., LONDON . . . . .	110
BAILEY, G. B., CARDIFF . . . . .	87
BALLS AND STANSFIELD LTD., NEWCASTLE . . . . .	51
BARR, CROMBIE AND CO. LTD., GLASGOW. . . . .	46



# House Flags and Funnels of British Shipping Companies

	ILLUS.
BELFAST STEAMSHIP CO. LTD., BELFAST . . . . .	162
BELL BROS. AND CO., GLASGOW . . . . .	219
BERWINDMOOR S.S. CO. LTD., LIVERPOOL . . . . .	265
BETHELL, GWYN AND CO., LONDON . . . . .	111
BIBBY BROTHERS AND CO., LIVERPOOL . . . . .	137
BLAND, M. H., AND CO. LTD., GIBRALTAR . . . . .	170
BLUE STAR LINE LTD., LONDON . . . . .	189
BOLTON, F., AND CO., LONDON . . . . .	6
BOMBAY AND PERSIA STEAM NAVIGATION CO. LTD., BOMBAY . . . . .	65
BOMBAY STEAM NAVIGATION CO. LTD., BOMBAY . . . . .	163
BOOKER BROS., MCCONNELL AND CO. LTD., LIVERPOOL . . . . .	223
BOOTH STEAMSHIP CO. LTD., LIVERPOOL . . . . .	1
BOWRING, C. T., AND CO. LTD., LONDON . . . . .	104
BRITISH AND CONTINENTAL S.S. LTD., LIVERPOOL . . . . .	268
BRITISH AND IRISH STEAM PACKET CO. LTD., DUBLIN . . . . .	135
BRITISH INDIA STEAM NAVIGATION CO. LTD., LONDON . . . . .	114
BRITISH MEXICAN PETROLEUM CO. LTD., LONDON . . . . .	224
BRITISH TANKER CO. LTD., LONDON . . . . .	192
BROCKLEBANK, THOS. AND JNO., LTD., LIVERPOOL . . . . .	42
BROWN, WM., ATKINSON AND CO., HULL . . . . .	86
BRUCE, JOHN, AND CO., GLASGOW . . . . .	151
BRUSSELS STEAM SHIP CO. LTD., LONDON . . . . .	222
BULLARD, KING AND CO. LTD., LONDON . . . . .	255
BURMAH OIL CO. LTD., GLASGOW . . . . .	269
BURNETT AND CO., NEWCASTLE . . . . .	119
BURNS AND LAIRD LINES LTD., GLASGOW . . . . .	150

# Ships and the Sea

	ILLUS.
BURNS PHILP AND CO. LTD., SYDNEY . . . . .	100
CAIRNS, NOBLE AND CO., NEWCASTLE . . . . .	191
CAMPBELL BROS. AND CO., NEWCASTLE . . . . .	58
CAMPBELL, J. M., AND SON, GLASGOW . . . . .	39
CAMPBELL, LTD., P. AND A., BRISTOL . . . . .	266
CANADIAN AUSTRALASIAN LINE LTD., WELLINGTON . . . . .	166
CANADIAN NATIONAL STEAMSHIPS, MONTREAL . . . . .	194
CANADIAN PACIFIC RAILWAY CO., MONTREAL . . . . .	243
CANADIAN PACIFIC STEAMSHIPS LTD., LONDON . . . . .	210
CAPPER, ALEXANDER AND CO., LONDON . . . . .	15
CARRICK, F., AND CO. LTD., NEWCASTLE . . . . .	54
CARRON CO., FALKIRK . . . . .	25
CHAMBERS, JAMES, AND CO., LIVERPOOL . . . . .	140
CHAPMAN, R., AND SON, NEWCASTLE . . . . .	116
CHARLTON, McALLUM AND CO. LTD., NEWCASTLE . . . . .	226
CHARRINGTON, GARDNER, LOCKET AND CO. LTD., LONDON . . . . .	259
CHEESWRIGHT AND FORD, LONDON . . . . .	218
CHINA NAVIGATION CO. LTD., LONDON . . . . .	20
CITY LINE LTD., GLASGOW . . . . .	262
CITY OF CORK STEAM PACKET CO. LTD., CORK . . . . .	275
CLAN LINE STEAMERS LTD., LIVERPOOL . . . . .	57
CLARK AND SERVICE, GLASGOW . . . . .	18
CLAYMORE SHIPPING CO. LTD., CARDIFF . . . . .	28
CLYDE SHIPPING CO. LTD., GLASGOW . . . . .	27
COASTAL TANKERS CO. LTD., LONDON . . . . .	141
COAST LINES LTD., LIVERPOOL . . . . .	33

(220).





# BRITISH EMPIRE

Clan Line flag (57) is worn at foremast by Houston ships (182) and by Scottish Shire ships (220).

 <p>1. Booth S.S. Co. Ltd.</p>	 <p>2. John Cory &amp; Sons Ltd.</p>	 <p>3. Thos. Dunlop &amp; Sons. (Grey hulls.)</p>	 <p>4. Douglas &amp; Ramsey.</p>	 <p>5. Meldrum &amp; Swinson</p>	 <p>6. F Bolton &amp; Co.</p>	 <p>7. Glover Bros. (Grey hulls.)</p>	 <p>8. General Steam Nav. Co. Ltd. (Brown uppers)</p>
 <p>9. Huddart Parker. (Cargo ships.)</p>	 <p>10. Lobitos Oilfields Ltd. (Tankers.)</p>	 <p>11. Wm. Robertson. (Engines aft.)</p>	 <p>12. Watts, Watts &amp; Co. Ltd.</p>	 <p>13. W. Milburn &amp; Co. Ltd</p>	 <p>14. W. S. Miller &amp; Co.</p>	 <p>15. Capper, Alexander &amp; Co.</p>	 <p>16. North of Scotland &amp; Orkney &amp; Shetland S.N. Co. Ltd.</p>
 <p>17. Henry M. Thomson.</p>	 <p>18. Clark &amp; Service. (Grey hulls.)</p>	 <p>19. P. Henderson &amp; Co.</p>	 <p>20. China Nav. Co. Ltd.</p>	 <p>21. Jos. E. Murrell &amp; Sons</p>	 <p>22. Penin &amp; Oriental S.N. Co. (Brown uppers.)</p>	 <p>23. Anchor Line (1935) Ltd.</p>	 <p>24. Khedivial Mail S.S. &amp; Graving Dock Co. Ltd.</p>
 <p>25. The Carron Co. (Cannon ball at main-mast head.)</p>	 <p>26. Eastern &amp; Australian S.S. Co. Ltd. (Brown uppers.)</p>	 <p>27. Clyde Shipping Co. Ltd. (Brown uppers.)</p>	 <p>28. Claymore Shipping Co. Ltd.</p>	 <p>29. F. C. Perman</p>	 <p>30. The Hain S.S. Co Ltd.</p>	 <p>31. Kaye, Son &amp; Co. Ltd.</p>	 <p>32. Vacuum Oil Co. Ltd. (Tankers.)</p>
 <p>33. Coast Lines Ltd.</p>	 <p>34. Ropner Shipping Co. Ltd. (Grey hulls.)</p>	 <p>35. F. T. Everard &amp; Sons Ltd. (Engines aft.)</p>	 <p>36. Turnbull Scott &amp; Co.</p>	 <p>37. G. Heyn &amp; Sons Ltd.</p>	 <p>38. S. Metrop. Gas Co. (Brown uppers.)</p>	 <p>39. J. M. Campbell &amp; Son</p>	 <p>40. W. A. Souter</p>
 <p>41. A. Crawford &amp; Co. Ltd.</p>	 <p>42. Thos. &amp; Jno. Brocklebank Ltd. (Flag worn at foremast.)</p>	 <p>43. Arthur A. Rapp (Tankers.)</p>	 <p>44. W. B. Elsworth (Tankers.)</p>	 <p>45. G. T. Gillie &amp; Blair</p>	 <p>46. Barr, Crombie &amp; Co. Ltd.</p>	 <p>47. Melbourne S.S. Co. Ltd.</p>	 <p>48. London &amp; Edinburgh S. Co. Ltd. (Brown uppers.)</p>
 <p>49. R. Hughes &amp; Co (L'pool) Ltd. (Engines aft.)</p>	 <p>50. W. J. Tatem Ltd.</p>	 <p>51. Balls &amp; Stansfield Ltd.</p>	 <p>52. J. Edgar &amp; Co.</p>	 <p>53. Robinson (Joseph) &amp; Sons</p>	 <p>54. F. Carrick &amp; Co. Ltd. (Grey hulls.)</p>	 <p>55. Houlder Bros. &amp; Co. Ltd.</p>	 <p>56. Furness-Houlder Argentine Lines Ltd.</p>

# NAVY SIGNALS - 1865

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# House Flags and Funnels of British Shipping Companies

	ILLUS.
COMMERCIAL CABLE CO., LONDON . . . . .	225
COMMON BROTHERS, NEWCASTLE . . . . .	66
COMMONWEALTH AND DOMINION LINE LTD., LONDON . . . . .	173
CONNELL AND GRACE LTD., LONDON . . . . .	75
CONSTANTINE, JOSEPH, STEAMSHIP LINE LTD., MIDDLESBROUGH . . . . .	180
COOK AND CO. LTD., J. W., LONDON . . . . .	118
CORMACK, JAMES, AND CO., LEITH . . . . .	129
CORY AND STRICK (STEAMERS) LTD., LONDON . . . . .	72
CORY COLLIERS LTD., NEWCASTLE . . . . .	96
CORY, JOHN, AND SONS LTD., CARDIFF . . . . .	2
COSENS AND CO. LTD., WEYMOUTH . . . . .	238
CRAWFORD, A., AND CO. LTD., GLASGOW . . . . .	41
CROSBY, SON AND CO. LTD., WEST HARTLEPOOL . . . . .	88
CUNARD STEAM SHIP CO. LTD., LIVERPOOL . . . . .	171
CUNARD WHITE STAR LTD., LIVERPOOL . . . . .	172 and 249
CURRIE, JAMES, AND CO., LEITH . . . . .	79
DALGLIESH, R. S., LTD., NEWCASTLE . . . . .	128
DAVIES AND NEWMAN LTD., LONDON . . . . .	277
DAWSON, F. S., LTD., CARDIFF . . . . .	175
DENHOLD, J. AND J., LTD., GLASGOW . . . . .	142
DODD, THOMPSON AND CO. LTD., LONDON . . . . .	248
DONALDSON ATLANTIC LINE LTD., GLASGOW . . . . .	84
DONALDSON BROS. LTD., GLASGOW . . . . .	78
DONALDSON SOUTH AMERICAN LINE LTD., GLASGOW . . . . .	83
DONKING AND SONS LTD., T. H., MIDDLESBROUGH . . . . .	185
DOUGLAS AND RAMSEY, GLASGOW . . . . .	4



## Ships and the Sea

	ILLUS.
DOVER NAVIGATION COMPANY LTD., LONDON . . . . .	274
DUFF, T. L., AND CO., GLASGOW . . . . .	244
DUNDEE, PERTH AND LONDON SHIPPING CO. LTD., DUNDEE . . . . .	143
DUNLOP, THOMAS AND SONS, GLASGOW . . . . .	3
EAGLE OIL AND SHIPPING CO. LTD., LONDON . . . . .	126
EASTERN AND AUSTRALIAN STEAM SHIP CO. LTD., LONDON . . . . .	26
EASTERN TELEGRAPH CO. LTD., LONDON . . . . .	197
EDGAR, J., AND CO., LIVERPOOL . . . . .	52
ELDERS AND FYFFES LTD., LONDON . . . . .	227
ELDER DEMPSTER LINES LTD., LIVERPOOL . . . . .	215
ELLERMAN AND BUCKNALL STEAMSHIP CO. LTD., LONDON . . . . .	101
ELLERMAN LINES LTD., GLASGOW . . . . .	260, 261, 262, 263
ELLERMAN'S WILSON LINE LTD., HULL . . . . .	164
ELSWORTH, W. B., ONTARIO . . . . .	44
EVERARD AND SONS LTD., FRANK T., LONDON . . . . .	35
FEDERAL STEAM NAVIGATION CO. LTD., LONDON . . . . .	184
FISHER AND SONS LTD., JAMES, BARROW-IN-FURNESS . . . . .	264
FISHER, RENWICK MANCHESTER-LONDON STEAMERS LTD., NEWCASTLE . . . . .	117
FRANCE, W., FENWICK AND CO. LTD., LONDON . . . . .	93
FURNESS-HOULDER ARGENTINE LINES LTD., LONDON . . . . .	56
FURNESS LINES, LIVERPOOL . . . . .	59
GAS LIGHT AND COKE CO., LONDON . . . . .	77
GENERAL STEAM NAVIGATION CO. LTD., LONDON . . . . .	8
GIBBS AND CO., CARDIFF . . . . .	146
GIBSON, GEORGE AND CO. LTD., LEITH . . . . .	228
GILLESPIE AND NICOL, GLASGOW . . . . .	229





# BRITISH EMPIRE

 <p>57. The Clan Line Steamers Ltd.</p>	 <p>58. Campbell Bros. &amp; Co</p>	 <p>59. Furness Lines &amp; Bermuda &amp; W Indies S.S. Co. Ltd.</p>	 <p>60. Prince Line Ltd (Grey hulls.)</p>	 <p>61. Tanfield S.S. Co Ltd (Brown uppers.)</p>	 <p>62. Limerick Steamship Co. Ltd (Brown uppers.)</p>	 <p>63. Tyne-Tees S.S. Co. Ltd.</p>	 <p>64. T. &amp; J. Harrison</p>
 <p>65. Bombay &amp; Persia S.N. Co. Ltd.</p>	 <p>66. Common Bros.</p>	 <p>67. Morel Ltd.</p>	 <p>68. Turner Brightman &amp; Co (Grey hulls.)</p>	 <p>69. Hunting &amp; Sons Ltd. (Tankers; grey hulls.)</p>	 <p>70. Lawther, Latta &amp; Co Ltd. (Grey hulls.)</p>	 <p>71. Pelton S.S. Co. Ltd</p>	 <p>72. Cory &amp; Strick (Steamers) Ltd.</p>
 <p>73. La Tunisienne S.S. Co. Ltd.</p>	 <p>74. John Kelly Ltd. (Engines aft.)</p>	 <p>75. Connell &amp; Grace Ltd.</p>	 <p>76. I. Williams &amp; Co</p>	 <p>77. Gas Light &amp; Coke Co (Engines aft brown uppers.)</p>	 <p>78. Donaldson Bros. Ltd</p>	 <p>79. James Currie &amp; Co</p>	 <p>80. Stephenson Clarke &amp; Assoc Cos Ltd (Engines aft)</p>
 <p>81. The Pentwyn S.S. Co. Ltd.</p>	 <p>82. Wm. Sloan &amp; Co.</p>	 <p>83. Donaldson S. American Line Ltd.</p>	 <p>84. Donaldson Atlantic Line Ltd.</p>	 <p>85. Moss-Hutchison Line Ltd.</p>	 <p>86. Wm Brown, Atkinson &amp; Co</p>	 <p>87. G. B. Bailey</p>	 <p>88. Crosby, Son &amp; Co Ltd.</p>
 <p>89. J. &amp; C Harrison Ltd. (Grey hulls.)</p>	 <p>90. John S. Monks Ltd. (Engines aft.)</p>	 <p>91. W. Runciman &amp; Co. Ltd.</p>	 <p>92. Geo. T. Readhead &amp; Co</p>	 <p>93. Wm. France, Fenwick &amp; Co. Ltd.</p>	 <p>94. Pyman Bros. Ltd. (Grey hulls.)</p>	 <p>95. E. R. Newbigin Ltd.</p>	 <p>96. Cory Colliers Ltd. (Engines aft; brown uppers.)</p>
 <p>97. Strath S.S. Co. Ltd. (Grey hulls.)</p>	 <p>98. Witherington &amp; Everett</p>	 <p>99. Ridley (John), Son &amp; Tully (Black band on foremast.)</p>	 <p>100. Burns, Philp &amp; Co. Ltd</p>	 <p>101. Ellerman &amp; Bucknall S.S. Co. Ltd (Grey hulls.)</p>	 <p>102. Chas Hill &amp; Sons</p>	 <p>103. Headlam &amp; Sons</p>	 <p>104. C. T. Bowring &amp; Co. Ltd. (Mostly tankers.)</p>
 <p>105. J. Morrison &amp; Son</p>	 <p>106. Lambert Bros. Ltd.</p>	 <p>107. Wandsworth &amp; Gas Co. Ltd. (Engines aft; brown uppers.)</p>	 <p>108. F. C. Strick &amp; Co. Ltd.</p>	 <p>109. A. F. Henry &amp; MacGregor Ltd. (Engines aft.)</p>	 <p>110. Australasian United S.N. Co. Ltd. (Brown uppers.)</p>	 <p>111. Bethell, Gwyn &amp; Co.</p>	 <p>112. Aberdeen, Newcastle &amp; Hull Steam Co. Ltd.</p>



# NAVY SIGNALS

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# House Flags and Funnels of British Shipping Companies

	ILLUS.
GILLIE & BLAIR LTD., G. T., NEWCASTLE . . . . .	45
GLEN AN' CO., GLASGOW . . . . .	145
GLEN LINE LTD., LONDON . . . . .	165
GLOVER BROTHERS, LONDON . . . . .	7
GOW, HARLISON AND CO., GLASGOW . . . . .	147
GREAT WESTERN RAILWAY CO., LONDON . . . . .	159
HADLEY SHIPPING CO. LTD., LONDON . . . . .	231
HAIN STEAMSHIP CO. LTD., LONDON . . . . .	30
HALDIN AND PHILIPPS LTD., LONDON . . . . .	247
HARRISON BROTHERS, NEWCASTLE . . . . .	158
HARRISON LINE LTD., GLASGOW . . . . .	261
HARRISON AND DIXON LTD., LONDON . . . . .	221
HARRISON, J. AND C., LTD., LONDON . . . . .	89
HARRISON, T. AND J., LIVERPOOL . . . . .	64
HAY AND SONS LTD., J., GLASGOW . . . . .	138
HEADLAM AND SONS, WHITBY . . . . .	103
HENDERSON, P., AND CO., GLASGOW . . . . .	19
HENDRY AND SONS, P.D., GLASGOW . . . . .	149
HENRY, ALEXANDER F., AND MACGREGOR LTD., LEITH . . . . .	109
HEYN, G., AND SONS LTD., BELFAST . . . . .	37
HILL, CHAS., AND SONS, BRISTOL . . . . .	102
HOGARTH, H., AND SONS, GLASGOW . . . . .	230
HOLT, ALFRED, AND CO., LIVERPOOL . . . . .	127
HOLT, J., AND CO. (LIVERPOOL) LTD., LIVERPOOL . . . . .	148
HOULDER BROS. AND CO. LTD., LONDON . . . . .	55
HOUSTON LINE OF STEAMERS, LONDON . . . . .	182

# Ships and the Sea

	ILLUS.
HUDDART PARKER LTD., VICTORIA . . . . .	9 and 198
HUGHES AND Co. (LIVERPOOL) LTD., RICHARD, LIVERPOOL . . . . .	49
HUNTING AND SON LTD., NEWCASTLE . . . . .	69
INDO-CHINA STEAM NAVIGATION Co. LTD., VICTORIA, HONG KONG . . . . .	154
INTERSTATE STEAMSHIPS LTD., SYDNEY . . . . .	186
IRANIAN TANKER Co. LTD., LONDON . . . . .	139
ISLE OF MAN STEAM PACKET Co. LTD., DOUGLAS, I.O.M. . . . .	167
JACOBS, JOHN I., AND Co. LTD., LONDON . . . . .	232
JAMAICA BANANA PRODUCERS S.S. Co. LTD., KINGSTON, JAM. . . . .	133
JONES, RICHARD W., AND Co. . . . .	201
KAYE, SON AND Co. LTD., LONDON . . . . .	31
KELLY LTD., JOHN, BELFAST . . . . .	74
KENNAUGH AND Co., W. S., LIVERPOOL . . . . .	204
KHEDIVIAL MAIL STEAMSHIP AND GRAVING DOCK Co. LTD., ALEXANDRIA . . . . .	24
LAMBERT BROS. LTD., LONDON . . . . .	106
LAMPORT AND HOLT LINE LTD., LIVERPOOL . . . . .	136
LARRINAGA S.S. Co., LTD., LIVERPOOL . . . . .	124
LA TUNISIENNE STEAM NAVIGATION Co. LTD., LONDON . . . . .	73
LAWTHER, LATTI AND Co. LTD., LONDON . . . . .	70
LIMERICK STEAMSHIP Co. LTD., LIMERICK . . . . .	62
LIVERPOOL AND NORTH WALES S.S. Co. LTD., LIVERPOOL . . . . .	213
LOBITOS OILFIELDS LTD., LONDON . . . . .	10
LONDON AND EDINBURGH SHIPPING Co. LTD., LEITH . . . . .	48
LONDON AND NORTH EASTERN RAILWAY, LONDON . . . . .	187, 233, 270
LONDON, MIDLAND AND SCOTTISH RAILWAY, LONDON . . . . .	242, 250, 257
LONDON POWER Co. LTD., LONDON . . . . .	174





# BRITISH EMPIRE

 <p>113 Radcliffe (Evan Thomas) &amp; Co</p>	 <p>114. British India S.N. Co. Ltd. (Lower msts. black, topmsts. brown.) (Black boats.)</p>	 <p>115 W H Seager &amp; Co. Ltd.</p>	 <p>116 R. Chapman &amp; Son (Grey hulls.)</p>	 <p>117 Fisher, Renwick Manchester-London Strs Ltd.</p>	 <p>118 J W. Cook &amp; Co. Ltd. (Tankers.)</p>	 <p>119 Burnett &amp; Co. Ltd. (Brown uppers.)</p>	 <p>120. Scindia S.N. Co. Ltd.</p>
 <p>121 Stephens, Sutton Ltd.</p>	 <p>122 A. Stott &amp; Co. Ltd.</p>	 <p>123 E. J Sutton &amp; Co.</p>	 <p>124. Larrinaga S.S. Co Ltd.</p>	 <p>125 Yeoward Line Ltd</p>	 <p>126. Eagle Oil &amp; S Co. Ltd. (Tankers.)</p>	 <p>127 Alfred Holt &amp; Co</p>	 <p>128 R. S. Dalglish Ltd.</p>
 <p>129 James Cormack &amp; Co.</p>	 <p>130 Lampport &amp; Holt Ltd.</p>	 <p>131 Tankers Ltd. (Tankers.)</p>	 <p>132 Weidner, Hopkins &amp; Co</p>	 <p>133. Jamaica Banana Producers S.S.Co. Ltd. (White hulls.)</p>	 <p>134 United Baltic Corp. Ltd.</p>	 <p>135 British &amp; Irish S.P. Co. Ltd.</p>	 <p>136. S. &amp; J. Thompson Ltd. (Grey hulls.)</p>
 <p>137 Bibby Bros &amp; Co. (4 masts.)</p>	 <p>138. John Hay &amp; Sons Ltd. (Engines aft; brown uppers.)</p>	 <p>139. Iranian Tanker Co. Ltd. (Tankers.)</p>	 <p>140 James Chambers &amp; Co.</p>	 <p>141 Coastal Tankers Co. Ltd. (Tankers.)</p>	 <p>142. J. &amp; J. Denholm Ltd.</p>	 <p>143. The Dundee Perth &amp; London S. Co. Ltd.</p>	 <p>144. New Egypt &amp; Levant S. Co. Ltd.</p>
 <p>145. Glen &amp; Co</p>	 <p>146. Gibbs &amp; Co.</p>	 <p>147. Gow, Harrison &amp; Co (Tankers.)</p>	 <p>148 John Holt &amp; Co (L'pool) Ltd. (Grey hulls.)</p>	 <p>149 P D. Hendry &amp; Sons (Grey hulls.)</p>	 <p>150. Burns &amp; Laird Lines Ltd.</p>	 <p>151. John Bruce &amp; Co</p>	 <p>152. Anglo-American Oil Co Ltd (Tankers.)</p>
 <p>153. Southampton, I.O.W. &amp; S of E. R.M.S.P. Co. Ltd. (Paddle Steamers.)</p>	 <p>154 Indo-China S.N. Co. Ltd.</p>	 <p>155. The Union-Castle Mail S.S. Co. Ltd. (Lavender hulls.)</p>	 <p>156. Townsend Bros. Ltd.</p>	 <p>157 Raeburn &amp; Verel Ltd.</p>	 <p>158 Hall Bros</p>	 <p>159 Great Western Ry. Co</p>	 <p>160 McIlwraith, McEachern Ltd.</p>
 <p>161. D. MacBrayne (1928) Ltd.</p>	 <p>162. Belfast S.S. Co. Ltd.</p>	 <p>163. The Bombay S.N. Co. Ltd. (Brown uppers.)</p>	 <p>164 Ellerman's Wilson Line Ltd (Green hulls.)</p>	 <p>165. Glen Line Ltd.</p>	 <p>166 Can. Australasian Line Ltd. (Green hulls.)</p>	 <p>167 Isle of Man S.P. Co. Ltd.</p>	 <p>168. Union S.S. Co. of N.Z. (Green hulls.)</p>

# NAVY SIGNALS



# House Flags and Funnels of British Shipping Companies

	ILLUS.
LYLE SHIPPING CO. LTD., GLASGOW . . . . .	199
MACANDREWS AND CO. LTD., LIVERPOOL . . . . .	216
MACBRAYNE (1928) LTD., DAVID, GLASGOW . . . . .	161
MACLAY AND MCINTYRE LTD., GLASGOW . . . . .	234
MCCALLUM AND SONS LTD., GREENOCK . . . . .	169
MCCALLUM ORME AND CO. LTD., GLASGOW . . . . .	181
MCILWRAITH, MCEACHARN LTD., MELBOURNE . . . . .	160
MANCHESTER LINERS LTD., MANCHESTER . . . . .	183
MELBOURNE STEAMSHIP CO. LTD., MELBOURNE . . . . .	47
MELDRUM AND SWINSON, LONDON . . . . .	5
MILBURN, W., AND CO. LTD., NEWCASTLE . . . . .	13
MILLER, W. S. AND CO., GLASGOW . . . . .	14
MONKS LTD., JOHN S., LIVERPOOL . . . . .	90
MOREL LTD., CARDIFF . . . . .	67
MORRISON, J., AND SON, NEWCASTLE . . . . .	105
MOSS, H. E. AND CO., LIVERPOOL . . . . .	253
MOSS-HUTCHISON LINE LTD., GLASGOW . . . . .	85
MURRELL, JOS. E., AND SONS, WEST HARTLEPOOL . . . . .	21
NEWBIGIN LTD., E. R., NEWCASTLE . . . . .	95
NEW EGYPT AND LEVANT SHIPPING CO. LTD., LONDON . . . . .	144
NEW ZEALAND SHIPPING CO. LTD., THE, CHRISTCHURCH . . . . .	217
NISBET, GEORGE AND CO., GLASGOW . . . . .	188
NORTH OF SCOTLAND AND ORKNEY AND SHETLAND STEAM NAVIGATION CO. LTD., ABERDEEN . . . . .	16
NOURSE, JAMES, LTD., LONDON . . . . .	258
ORIENT STEAM NAVIGATION CO. LTD., LONDON . . . . .	211

# Ships and the Sea


	ILLUS.
PACIFIC STEAM NAVIGATION Co., LIVERPOOL . . . . .	200
PELTON S.S. Co., LTD., NEWCASTLE . . . . .	71
PENINSULAR AND ORIENTAL STEAM NAVIGATION Co., LONDON . . . . .	22 and 206
PENTWYN STEAMSHIP Co. LTD., CARDIFF . . . . .	81
PERMAN, F. C., LONDON . . . . .	29
PRINCE LINE LTD., LONDON . . . . .	60
PYMAN BROS. LTD., LONDON . . . . .	94
RADCLIFFE (EVAN THOMAS) AND Co., CARDIFF . . . . .	113
RAEBURN AND VEREL LTD., GLASGOW . . . . .	157
RAPP, ARTHUR A., LONDON . . . . .	43
READHEAD, GEORGE T., AND Co., NEWCASTLE . . . . .	92
RIDLEY (JOHN), SON AND TULLY, NEWCASTLE . . . . .	99
RIX AND SONS, R., HULL . . . . .	177
ROBERTS, HUGH, AND SON, NEWCASTLE . . . . .	176
ROBERTSON, WM., GLASGOW . . . . .	11
ROBINSON (JOSEPH) AND SONS, NORTH SHIELDS . . . . .	53
ROPNER SHIPPING Co. LTD., WEST HARTLEPOOL . . . . .	34
ROYAL MAIL LINES LTD., LONDON . . . . .	214
RUNCIMAN, W. AND Co. LTD., NEWCASTLE . . . . .	91
SAINT LINE LTD., LIVERPOOL . . . . .	190
SALVESEN AND Co. CHR., LEITH . . . . .	193
SCINDIA STEAM NAVIGATION Co. LTD., BOMBAY . . . . .	120
SEAGER, W. H. AND Co. LTD., CARDIFF . . . . .	115
SHAW, SAVILL AND ALBION Co. LTD., LONDON . . . . .	245
SHIPPICK, S. J., ROCHESTER . . . . .	205
SIEMENS BROS. AND Co. LTD., LONDON . . . . .	237







# BRITISH EMPIRE

 <p>169. P. McAllum &amp; Sons Ltd. (Engines aft.)</p>	 <p>170. M. H. Bland &amp; Co. Ltd.</p>	 <p>171. Cunard S.S. Co. Ltd.</p>	 <p>172. Cunard White Star Ltd. (Former Cunard ships.)</p>	 <p>173 Commonwealth &amp; Dominion Line Ltd. (Grey hulls.)</p>	 <p>174. London Power Co. Ltd. (Engines aft; brown uppers.)</p>	 <p>175. F. S. Dawson Ltd.</p>	 <p>176. W. Roberts</p>
 <p>177. R. Rix &amp; Sons. (Engines aft; brown uppers.)</p>	 <p>178. Sir W. Reardon Smith &amp; Sons Ltd. (Grey hulls.)</p>	 <p>179. United Molasses Co. Ltd. (Tankers.)</p>	 <p>180. J. Constantine S.S. Line Ltd.</p>	 <p>181 McAllum Orme &amp; Co. Ltd.</p>	 <p>182. Houston Line of Steamers</p>	 <p>183. Manchester Liners, Ltd.</p>	 <p>184. Federal S.N. Co. Ltd.</p>
 <p>185. T. H. Donking &amp; Sons Ltd.</p>	 <p>186. Interstate S.S. Co. Ltd. (Brown uppers.)</p>	 <p>187. L. &amp; N.E. Rly. (Scottish area; paddle str.)</p>	 <p>188. G. Nisbet &amp; Co.</p>	 <p>189. The Blue Star Line Ltd.</p>	 <p>190. The Saint Line Ltd. (Grey hulls.)</p>	 <p>191. Cairns, Noble &amp; Co.</p>	 <p>192. British Tanker Co. Ltd. (Tankers)</p>
 <p>193. Chr. Salvesen &amp; Co (Grey hulls.)</p>	 <p>194. Canadian National Steamships (White hulls.)</p>	 <p>195. Telegraph Const. &amp; Maintenance Co. Ltd. (Grey hulls.)</p>	 <p>196. Anglo-Egyptian Mail Line Ltd.</p>	 <p>197. Eastern Telegraph Co. Ltd. (White hulls.)</p>	 <p>198. Huddart Parker Ltd. (Passenger ships.)</p>	 <p>199. Lyle Shipping Co. , Ltd.</p>	 <p>200. Pacific S.N. Co.</p>
 <p>201. R. W. Jones &amp; Co.</p>	 <p>202. Thompson S.S. Co. Ltd.</p>	 <p>203. Aberdeen S.N. Co Ltd. (Brown uppers.)</p>	 <p>204. W. S. Kennaugh &amp; Co. (Engines aft.)</p>	 <p>205. S. J. Shippick (Paddle steamers.)</p>	 <p>206. Pen. &amp; Oriental S.N. Co. (White hulls.)</p>	 <p>207. Aberdeen &amp; Com- monwealth Line Ltd. (Green hulls.)</p>	 <p>208. Wm. Thomson &amp; Co. (Brown uppers.)</p>
 <p>209. Australian Oriental Line Ltd.</p>	 <p>210. Canadian Pacific Steamships Ltd. (White hulls for 3-funnelled ships.)</p>	 <p>211. Orient S.N. Co. Ltd. (Some have cream hulls.)</p>	 <p>212. Asiatic S.N. Co. Ltd.</p>	 <p>213. Liverpool &amp; N. Wales S.S. Co. Ltd.</p>	 <p>214. Royal Mail Lines Ltd.</p>	 <p>215. Elder Dempster Lines Ltd.</p>	 <p>216. MacAndrews &amp; Co. Ltd. (M.V.'s have white hulls.)</p>
 <p>217. The New Zealand Shipping Co. Ltd.</p>	 <p>218. Cheeswright &amp; Ford (Engines aft.)</p>	 <p>219. Bell Bros. &amp; Co.</p>	 <p>220. Turnbull, Martin &amp; Co. Ltd.</p>	 <p>221. Harris &amp; Dixon Ltd. (Tankers.)</p>	 <p>222 Brussels S.S. Co. Ltd. (Engines aft.)</p>	 <p>223. Booker Bros., McConnell &amp; Co. Ltd.</p>	 <p>224. British-Mexican Pet. Co. Ltd. (Tankers; built uppers.)</p>



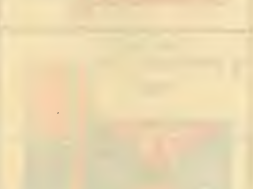
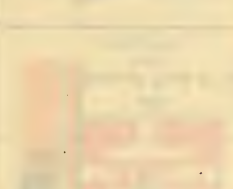
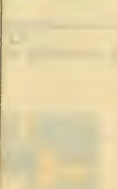
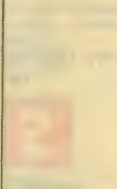
# House Flags and Funnels of British Shipping Companies

	ILLUS.
SLOAN, WILLIAM AND CO., GLASGOW . . . . .	82
SMITH, SIR WILLIAM REARDON, AND SONS LTD., CARDIFF . . . . .	178
SOUTER, W. A. AND CO., NEWCASTLE . . . . .	40
SOUTHAMPTON, ISLE OF WIGHT AND SOUTH OF ENGLAND ROYAL MAIL STEAM PACKET CO. LTD., SOUTHAMPTON . . . . .	153
SOUTHERN RAILWAY, LONDON . . . . .	235
SOUTH METROPOLITAN GAS CO., LONDON . . . . .	38
STEPHENSON, CLARKE AND ASSOCIATED COMPANIES LTD., LONDON . . . . .	80
STEPHENS, SUTTON LTD., NEWCASTLE . . . . .	121
STOTT, ARTHUR AND CO. LTD., NEWCASTLE . . . . .	122
STRAITS STEAMSHIP CO. LTD., SINGAPORE . . . . .	279
STRATH S.S. CO. LTD., CARDIFF . . . . .	97
STRICK, F. E. AND CO. LTD., LONDON . . . . .	108
SUN SHIPPING CO. LTD., LONDON . . . . .	273
SUTHERLAND, B. J., AND CO. LTD., NEWCASTLE . . . . .	256
SUTTON, E. J., AND CO., NEWCASTLE . . . . .	123
TANFIELD S.S. CO., LTD., NEWCASTLE . . . . .	61
TANKERS LTD., LONDON . . . . .	131
TATEM, W. J., CARDIFF . . . . .	50
TELEGRAPH CONSTRUCTION AND MAINTENANCE CO. LTD., LONDON . . . . .	195
THOMPSON, STANLEY AND JOHN, LTD., LONDON . . . . .	136
THOMPSON STEAM SHIPPING CO. LTD., LONDON . . . . .	202
THOMSON, HENRY M., LONDON . . . . .	17
THOMSON, WILLIAM, AND CO., LEITH . . . . .	208
TOWNSEND BROS. LTD., LONDON . . . . .	156
TRINDER, ANDERSON AND CO., LONDON . . . . .	254



## Ships and the Sea

	ILLUS.
TURNBULL, MARTIN AND CO. LTD., LONDON . . . . .	220
TURNBULL, SCOTT AND COMPANY, LONDON . . . . .	36
TURNER, BRIGHTMAN AND CO., LONDON . . . . .	68
TYNE-TEES STEAM SHIPPING CO. LTD., NEWCASTLE . . . . .	63
UNION-CASTLE MAIL STEAMSHIP CO. LTD., LONDON . . . . .	155
UNION STEAM SHIP CO. OF NEW ZEALAND, WELLINGTON . . . . .	168
UNITED AFRICA CO. LTD., LONDON . . . . .	236
UNITED BALTIC CORPORATION LTD., LONDON . . . . .	134
UNITED MOLASSES CO. LTD., LONDON . . . . .	179
VACUUM OIL CO. LTD., LONDON . . . . .	32
WANDSWORTH AND DISTRICT GAS CO., LONDON . . . . .	107
WATTS, WATTS AND CO. LTD., LONDON . . . . .	12
WEIDNER, HOPKINS AND CO., NEWCASTLE . . . . .	132
WEIR, ANDREW, AND CO., LONDON . . . . .	239 and 240
WESTCOTT AND LAURANCE LINE LTD., LONDON . . . . .	263
WEST HARTLEPOOL STEAM NAVIGATION CO. LTD., WEST HARTLEPOOL . . . . .	252
WESTOLL, JAMES, LTD., SUNDERLAND . . . . .	272
WILLIAMS AND CO., I., CARDIFF . . . . .	76
WILLIAMSON AND CO., JOHN, GLASGOW . . . . .	276
WITHERINGTON AND EVERETT, NEWCASTLE . . . . .	98
YEOWARD LINE LTD., LIVERPOOL . . . . .	125







# BRITISH EMPIRE



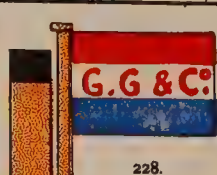
225.  
Commercial Cable  
Co



226.  
Charlton, McAllum  
& Co. Ltd.



227.  
Elders & Fyffes Ltd.  
(Grey hulls.)



228.  
G. Gibson & Co.  
Ltd.



229. Gillespie & Nicol



230.  
H. Hogarth & Sons  
(Grey uppers.)



231.  
Hadley Shipping Co.  
Ltd.  
(Tankers.)



232.  
John I. Jacobs &  
Co. Ltd.  
(Tankers; grey hulls.)



233.  
L. & N.E. Rly.  
(Top half foremast—white,  
derricks—white.)



234  
Maclay & McIntyre  
Ltd.  
(Buff uppers.)



235. Southern Railway



236.  
United Africa Co  
Ltd.  
(Grey hulls.)



237  
Siemens Bros &  
Co. Ltd.  
(Engines aft, grey hulls.)



238.  
Cosens & Co. Ltd.  
(Paddle Steamers.)



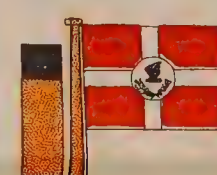
239. A. Weir & Co.



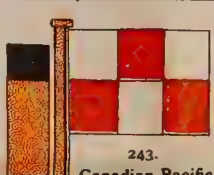
240  
A. Weir (Ind an-  
African Line)



241.  
Anglo-Saxon Pet  
Co. Ltd.  
(Tankers.)



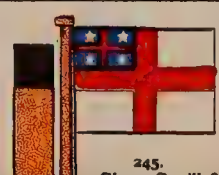
242. L.M. & S. Rly.



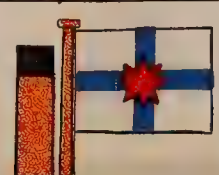
243.  
Canadian Pacific  
Rly



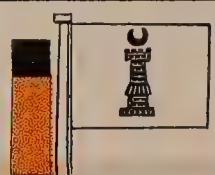
244. T. L. Duff & Co.



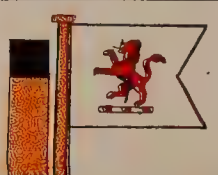
245.  
Shaw, Savill &  
Albion Co. Ltd.



246. Adelaide S.S. Co.  
Ltd.



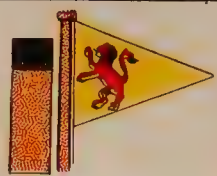
247. Haldin & Philipps  
Ltd.



248. Dodd, Thompson &  
Co. Ltd.



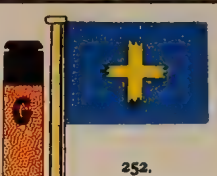
249. (Former White Star ships.)



250. L.M. & S. Rly.  
(Caledonian S.P. Co.)



251  
Ald Shipping Co.  
Ltd.  
(Engines aft; grey hulls.)



252.  
West Hartlepool  
S.N. Co. Ltd.



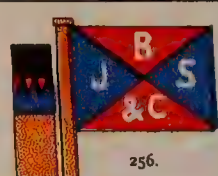
253.  
H. E. Moss & Co.  
(Tankers; grey hulls.)



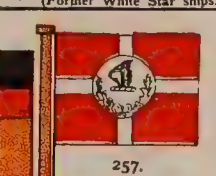
254. Trinder Anderson &  
Co.



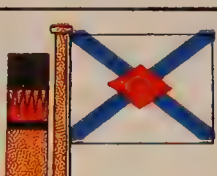
255.  
Bullard, King & Co.  
Ltd.  
(Grey hulls.)



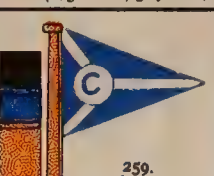
256.  
B. J. Sutherland &  
Co. Ltd.



257.  
L.M. & S. Rly  
(Goole service.)



258. James Nourse Ltd.



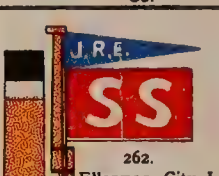
259.  
Charrington, Gard-  
ner, Locket & Co. Ltd.  
(Engines aft.)



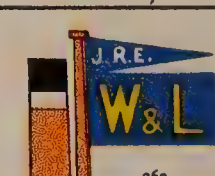
260.  
Ellerman Lines Ltd.  
(Grey hulls.)  
Ellerman & Papayanni  
Lines



261  
Ellerman Hall Line  
Ltd.  
(Grey hulls; "warship" topmasts.)



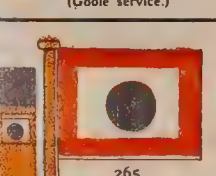
262.  
Ellerman City Line  
Ltd.  
(Grey hulls; "warship" topmasts.)



263.  
Ellerman Westcott  
& Laurance Line Ltd.



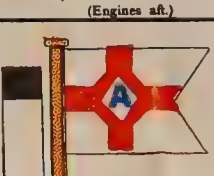
264.  
J. Fisher & Sons  
Ltd.  
(Engines aft.)



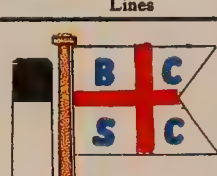
265.  
Berwindmoor S.S.  
Co. Ltd.  
(Engines aft.)



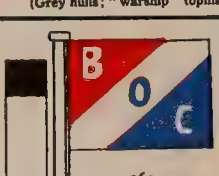
266.  
P & A. Campbell  
Ltd.  
(Paddle Steamers.)



267. D. Alexander &  
Sons



268.  
British & Continen-  
tal S.S. Co. Ltd.



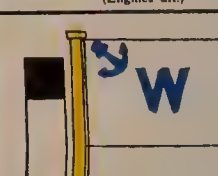
269.  
Burmah Oil Co. Ltd.  
(Tankers; grey hulls.)



270  
L. & N.E. Rly.  
(Grimsby; brown uppers.)



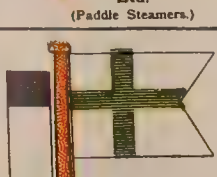
271. Australian Steam-  
ships Propy. Ltd.



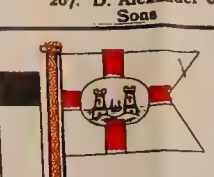
272. J. Westoll Ltd.



273. Sun Shipping Co.  
Ltd.



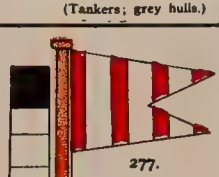
274. Dover Nav. Co. Ltd.



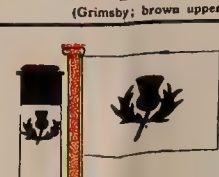
275. City of Cork S.P.  
Co. Ltd.



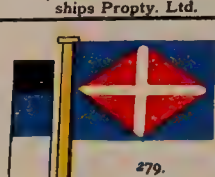
276. J. Williamson & Co.  
(Clyde Passenger Steamers.)



277.  
Davies & Newman  
Ltd.  
(Tankers.)



278. Allan, Black & Co.



279.  
Straits S.S. Co. Ltd.  
(White hulls.)

# NAVY SIGNALS



# House Flags and Funnels of Foreign Shipping Companies

## FOREIGN SHIPPING COMPANIES.

### ARGENTINE (*see p. 596*)

	ILLUS.
ARGENTINA C. DE N. MIHANOVICH . . . . .	3
IMPORT. Y EXPORT. DE LA PATAGONIA, S.A. . . . .	1
TRANSPORT DE PETROLEOS, COMP. (TANKERS) . . . . .	2

### BELGIUM (*see p. 598*)

AMERICAN PETROLEUM CO., S.A. BELGE (TANKERS) . . . . .	1
BELGIAN GULF OIL CO., S.A. (TANKERS) . . . . .	8
BELGIAN STATE RAILWAYS (Flag worn as Ensign) . . . . .	6
BELGO-ARGENTINE, CIE ROYALE . . . . .	5
"CIE DENS-OCEAN," S.A. . . . .	9
COCKERILL, JOHN, S.A. . . . .	7
DEPPE, ARMEMENT . . . . .	4
MARITIME BELGE (LLOYD ROYAL) COMP. (Grey hulls) . . . . .	2 and 3

### BRAZIL (*see p. 600*)

COSTEIRA, C.N. DE N. . . . .	1
LLOYD BRASILEIRO, C. DE N. . . . .	4
LLOYD NACIONAL, S.A. . . . .	3
PEREIRA, CARNEIRA AND CIA. LTDA. . . . .	2

### CHILI (*see p. 602*)

BRAUN AND BLANCHARD, S.A. COMP. . . . .	2
SCHWAGER, CIA. CARBON. Y DE FUND. . . . .	3
SUD AMERICANA DE VAP., COMP. . . . .	1



## Ships and the Sea

<b>CHINA</b> ( <i>see p. 614</i> )	ILLUS.
CHINA MERCHANTS S.N. Co. . . . .	2
HONG KONG, CANTON AND MACAO STEAMBOAT CO. LTD. . . . .	1
<b>DENMARK</b> ( <i>see p. 616</i> )	
BROWN, P. JUN., AND CO. (Grey hulls) . . . . .	5
DAMPSKIBS, FORENEDE (Some grey hulls) . . . . .	3
HANSEN, C. K. . . . .	10
HOLM, C. FROM (TANKERS) . . . . .	11
HOLM AND WONSILD (Grey hulls) . . . . .	7
ISLANDS, EIMSKIP . . . . .	12
LAURITZEN, J. (White hulls) . . . . .	4
MÖLLER, A. P. (Grey hulls) . . . . .	2
ÖSTASIATISKE KOMP. (Ships without funnels, grey) . . . . .	8
PETERSEN, A. N. (Grey hulls) . . . . .	9
SCHMIEGELOW, A. (White hulls) . . . . .	6
SVENDSEN AND CHRISTENSEN . . . . .	1
<b>FINLAND</b> ( <i>see p. 626</i> )	
FINLAND SOUTH AMERICA LINE . . . . .	2
FINSKA ANGFAITYGS . . . . .	1
<b>FRANCE</b> ( <i>see p. 628</i> )	
AFRICAINÉ D'ARMEMENT, CIE. . . . .	7
AUXILIAIRE DE NAV., CIE. (TANKERS) . . . . .	8
CHARGEURS RÉUNIS, CIE. F. DE NAV. . . . .	15
DELMAS FRÈRES, COMP. . . . .	4

# House Flags and Funnels of Foreign Shipping Companies

## FRANCE—*contd.*

ILLUS.

ÉTAT FRANÇAISE, CH. DE FER . . . . .	19
FABRE, CYP. . . . .	14
FRAISSINET, CIE. . . . .	20
FRANCE-AMÉRIQUE CIE. DE N. . . . .	3
GÉRANCE ET D'ARMEMENT, S.A. (Cargo vessels) . . . . .	6
" " " " (Passenger ships) . . . . .	21
HAVRAISE PÉNIN. DE N. À VAP., NOUVELLE CIE. . . . .	11
L'AFRIQUE OCCID. FRANÇAISE, CIE. DES T. M. (Grey hulls) . . . . .	5
L'OUEST, S.N. DE . . . . .	17
MESSAGERIES MARITIMES, CIE. DES . . . . .	2
" " " " (" Aramis ") . . . . .	18
MIXTE CIE. DE NAV. . . . .	9
PAQUET, CIE. DE N. . . . .	1
SCHIAFFINO ET CIE. CHAS. . . . .	13
SUD-ATLANTIQUE, CIE. DE N. . . . .	16
TRANSATLANTIQUE, CIE GÉNÉRALE . . . . .	12
TRANSPORTS MARIT. À VAP., S.G. DE . . . . .	10

## GERMANY (*see p. 634*)

ARGO, A. G. . . . .	1
BALTISCH-AMERIKANISCHE PETROL. GES. (TANKERS) . . . . .	18
BERNSTEIN, ARNOLD . . . . .	6
BLUMENTHAL, J. M. K. . . . .	22
BOLTEN, AUG. . . . .	2
CORDS, AUG. . . . .	8
DEUTSCHE LEVANTE LINIE . . . . .	7

# Ships and the Sea

## GERMANY—*contd.*

	ILLUS.
DEUTSCHE OST-AFRIKA LINIE (Grey hulls)	31
ESSBERGER, J. T. (TANKERS)	12
HAMBURG-AMERIKA LINIE.	30
HAMBURG BREMEN AFRIKA LINIE	21
HAMBURG-LONDON LINIE	4
HAMBURG SUD-AMERIKA LINIE	33
"HANSA" LINIE	19
HORN, H. C.	9
KIRSTEN, A.	5
KUNSTMANN, W.	24
LEONHARDT AND BLUMBERG	3
"MIDGARD" DEUTSCHE SEEVERKEHRS.	32
"NEPTUN" D.G.	10
NORDDEUTSCHER LLOYD	25
" " (Some cargo vessels)	29
OLDENBURG-PORTUGIESISCHE DAMPF.	27
RED STAR LINIE	13
RICKMERS LINIE (Green hulls)	16
RUSS, ERNST	14
SCHMIDT, H.	26
SIEMERS AND Co.	28
SLOMAN, R. M., JR.	11
STINNES REDEREI, HUGO (Engines aft)	20
UNTERWESER REEDEREI	15
WARIED TANKSCHIFF RHED. (TANKERS)	17
WOERMANN LINIE (Grey hulls)	23

# House Flags and Funnels of Foreign Shipping Companies

## GREECE (see p. 640)

ILLUS.

EMBIRICOS, M. A.	6
EMBIRICOS, S. G.	1
HADJILIAS, E. E.	4
HADJILIAS, P.	3
NATIONAL S.N. Co. LTD.	5
RETHYMNIS AND KULUKUNDIS LTD.	2

## ITALY (see p. 642)

"ADRIA," S.A. DI NAV. MARIT.	1
ADRIATICA COMP. DI NAV. (Mostly white hulls)	16
ALTA ITALIA NAV.	12
"CORRADO," S.A. DI NAV.	10
"GARIBALDI," S.A. CO-OP. DI NAV.	4
GEROLIMICH AND Co.	6
"ISTRA-TRIESTE," S. DI NAV. À VAP. (Grey hulls)	20
"ITALIA "	22
ITALO-SOMALA, S.A. DI NAV.	19
"LA COLUMBIA," S. MARIT.	17
LIBERA TRIESTINA, NAV.	15
LIGURE, S. DI ARMA	18
LLOYD MEDITERRANEO, S. ITAL. DI NAV.	11
LLOYD TRIESTINO	3
" " (White hulls)	14
"LUSSINO," S. DI NAV. À VAP. (Grey hulls)	2
"NOVA GENUENSIS," S.A.	5
PARODI, E. V., S.A.	9



# Ships and the Sea

## ITALY—*contd.*

	ILLUS.
"TIRRENIA" . . . . .	21
"TRANSATLANTICA ITALIANA," S. DI NAV.	13
TRIPCOVICH, D. AND CL., S.A. DI NAV.	8
VENEZIANA, S. DI NAV. À VAP.	7

## JAPAN (*see p. 658*)

GOVT. OF JAPAN: COMMUNICATIONS (Flag worn as ensign)	9
KAWASAKI KISEN K.K. . . . .	1
" " " . . . . .	7
KOKUSAI KISEN K.K. . . . .	6
MITSUBISHI SHOJI KAISHA LTD.	2
MTSUI BUSSAN K. LTD. . . . .	4
NIPPON YUSEN K.K. . . . .	5
OSAKA SHOSEN K.K. . . . .	3
TOYO KISEN K.K. . . . .	8

## NETHERLANDS (*see p. 660*)

CURAÇAOSCHE S. MAATS. "LA CORONA," NED. SUDISCHE (TANKERS)	25
ERHARDT AND DEKKERS . . . . .	18
HALCYON-LIJN . . . . .	19
"HILLEGERSBERG" S. MAATS.	29
HOLLAND WEST-AFRIKA LIJN . . . . .	15
HOLLANDSCHE S. MAATS. . . . .	28
HUDIG AND VEDER . . . . .	10
JAVA-CHINA-JAPAN LIJN (Mostly twin masts)	6
KONINK. HOLLAND LLOYD . . . . .	22

# House Flags and Funnels of Foreign Shipping Companies

## NETHERLANDS—*contd.*

ILLUS.

KONINK. NEDERLAND. S. MAATS. . . . .	20
KONINK. PAKET. MAATS. (Some have white hulls) . . . . .	26
"MILLINGEN," S. MAATS. . . . .	9
MÜLLER, WM. H. (Brown uppers) . . . . .	11
NEDERLAND-AMERIKA. S. MAATS. . . . .	24
NEDERLAND KOLONIALE PETROL MAATS. (TANKERS) . . . . .	17
"NEDERLAND " S. MAATS. . . . .	27
NEDERLANDSCHE LLOYD . . . . .	12
NEDERLANDSCHE ZEEREDERIJ . . . . .	7
OCEAAN, NED. S. MAATS. . . . .	21
"OOSTZEE " S. MAATS. . . . .	30
ROTTERDAM-LONDON S. MAATS. (Engines aft) . . . . .	14
"ROTTERDAM " S. MAATS. . . . .	2
ROTTERDAMSCH LLOYD (Grey hulls). . . . .	3
SCHIEP. EN STEENKOLEN MAATS. . . . .	13
"TRITON " S. MAATS. . . . .	4
VAN ES, P. A. AND CO. . . . .	1
VAN NIEVELT GOUDRIAAN AND CO. . . . .	23
VAN OMMEREN, PHs. (TANKERS) . . . . .	5
VAN UDEN'S SCHIEP. . . . .	8
VEREENIGDE NEDERLAND. S. MAATS. . . . .	16
VINKE AND CO. . . . .	32
"ZEELAND " S.S. CO. . . . .	31

# Ships and the Sea

## NORWAY (*see p. 664*)

ILLUS.

AABY, E. B.	9
BACHKE AND Co.	10
BERGENSKE DAMPSK.	22
"    "    (White hulls)	24
BIÖRNSTAD, BIÖRN AND Co. (Grey hulls)	29
BORGESTAD ACTIES. (Grey hulls)	17
BRUSGAARD KIÖSTERUDS DAMPS.	3
FEARNLEY AND EGER	12
HAALAND, CHR.	19
HANSEN, THORVALD	30
KLAVENESS, A. F. AND Co. (Grey hulls: many tankers)	11
KLOSTER, LAURITZ	31
KNUTSEN, KNUT (Many Tankers)	15
MÖRLAND, A. J.	2
MOWINCKELS RED., J. L.	33
NORDENFJELDSKE DAMPSK.	14
"    "    (" PRINS OLAV ")	25
NORSKE AMERIKALINJE (Grey hulls)	28
OLSEN, FRED., AND Co.	13
"    "    "    (Grey hulled ships)	26
OLSEN, KORN.	20
OLSEN, O. GROLLE	1
OLSEN, PETTER	27
PEDERSEN, J. P. (Grey hulls)	35
RÖED, HJALMAR AND Co.	4
SÖNDENFJELDS NORSKE DAMPSK.	8

# House Flags and Funnels of Foreign Shipping Companies

## NORWAY—*contd.*

ILLUS.

SORENSEN, C. H. . . . .	7
STAVANGERSKE DAMPSK. . . . .	16
VESTERAALENS DAMPSK. . . . .	6
WAAGE, HAGB. (Grey hulls: Tankers) . . . . .	18
WAAGE, R. AND J. STENERSEN (Grey hulls: Tankers). . . . .	23
WALLEM, HAAKON J. . . . .	34
WESTFAL-LARSEN AND Co. (Grey hulls) . . . . .	32
WILHELMSSEN, WILH. . . . .	5
WRANGELL, H. M. AND Co. (Grey hulls) . . . . .	21

## POLAND (*see p. 690*)

GDYNIA-AMERIKA LINJE . . . . .	3
POLSKO BRYTYJSKIE TOWAR (Grey hulls) . . . . .	2
"ZEGLUGA POLSKA" S.A. . . . .	1

## PORTUGAL (*see p. 692*)

EMPRESA INSULANA DE NAV. . . . .	2
NACIONAL DE NAV. COMP. . . . .	1

## SPAIN (*see p. 694*)

ALTOS HORNOS DE VIZCAYA, S.A. . . . .	4
ARRENDATARIA DEL MONOP. DE PETROL (TANKERS) . . . . .	8
ASTIGARRAGA HIJOS DE . . . . .	6
DE LA TORRE Y ALONSO . . . . .	5
SOTA, SIR RAMON DE LA . . . . .	0

# Ships and the Sea

## SPAIN—*contd.*

	ILLUS.
TRASATLANTICA, COMP. . . . .	1
TRASMEDITERRANEA, COMP. (White hulls) . . . . .	11
"    INTERINSULARES . . . . .	9
URQUIJO Y ALDECOA . . . . .	2
VASCONGADA, COMP. NAV. . . . .	7
YBARRA AND CO. . . . .	3

## SWEDEN (*see p. 702*)

BRATT, ADOLF. AND CO. . . . .	5
BROSTRÖM, AXEL AND SON . . . . .	7
GRÄNGESBERG-OXELÖSUND TRAFIK. (Grey hulls) . . . . .	2
MALMROS, JARL. (Grey hulls: mostly tankers) . . . . .	9
"NORDSTJERNAN" JOHNSON LINE (Grey hulls) . . . . .	4
SCHREIL, VIKTOR (Grey hulls) . . . . .	3
SVEA, STOCKHOLMS REDERIAKT. (Grey hulls) . . . . .	8
SVENSKA AMERIKA LINIEN (White hulls) . . . . .	19
SVENSKA AMERIKA-MEXIKO LINIEN . . . . .	12
SVENSKA LLOYD . . . . .	15
"    "    (Cargo vessels: grey hulls) . . . . .	4A
SVENSKA ÖSTASIATISKE KOMP. . . . .	11
"TIRFING" ANGFL. . . . .	6
TRANSATLANTIC REDERI (Grey hulls) . . . . .	13
TRANSMARK REDERI (Grey hulls: tankers) . . . . .	1
WALLER, PER (Grey hulls) . . . . .	14

# House Flags and Funnels of Foreign Shipping Companies

U.S.A. (see p. 722)

ILLUS.

AMERICAN AND CUBAN S.S. LINE . . . . .	19
AMERICAN DIAMOND LINES INC. . . . .	25
AMERICAN-HAWAIIAN S.S. Co. . . . .	21
AMERICAN LINE S.S. CORP. . . . .	11
AMERICAN MAIL LINE LTD. . . . .	27
BALTIMORE MAIL S.S. Co. . . . .	23
BARBER S.S. LINES INC. . . . .	8
CLYDE-MALLORY LINES . . . . .	13
COLOMBIAN S.S. Co. INC. (Grey hulls) . . . . .	24
DOLLAR S.S. LINES INC. LTD. . . . .	9
EASTERN S.S. LINES INC. . . . .	4
EXPORT S.S. CORP. . . . .	14
GRACE S.S. Co. INC. . . . .	18
INTER-ISLAND S.N. Co. LTD. . . . .	2
LUCKENBACH S.S. Co. INC. . . . .	10
MALLORY, C. D. AND Co., INC.. . . . .	3
MATSON NAV. Co. (Dark brown hulls) . . . . .	31
MUNSON STEAMSHIP LINE . . . . .	17
OCEAN S.S. Co. OF SAVANNAH . . . . .	7
OCEANIC AND ORIENTAL NAV. Co. . . . .	28
OCEANIC S.S. Co. (White hulls) . . . . .	30
PACIFIC S.S. LINES LTD. . . . .	26
PENINSULAR AND OCCIDENTAL S.S. Co. . . . .	1
ROOSEVELT S.S. Co. INC. . . . .	20
SOUTHERN PACIFIC S.S. LINES . . . . .	32
STANDARD FRUIT AND S.S. CORP. (White hulls) . . . . .	12

## Ships and the Sea

### U.S.A.—*contd.*

	ILLUS.
STANDARD OIL CO. OF CAL. (TANKERS) . . . . .	6
STANDARD SHIPPING CO. (TANKERS) . . . . .	15
STANDARD-VACUUM TRANS. CO. (TANKERS) . . . . .	5
UNITED FRUIT CO. (White hulls) . . . . .	29
WARD LINE . . . . .	16
WATERMAN S.S. CORP. . . . .	22

### URUGUAY (*see p. 728*)

URUGUAYA, COMP. . . . .	1
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### YUGOSLAVIA (*see p. 730*)

ATLANTSKA PLOVIDBA . . . . .	2
DUBROVACKA PAROB. PLOVIDBA . . . . .	1
” ” ” . . . . .	8
JADRANSKA PLOVIDBA . . . . .	4
JUGOSLAVENSKI LLOYD . . . . .	6
“OCEANIA,” BRODARSKO ACK. . . . .	5
POLIC, K.; JADRAN BRODARSKO . . . . .	7
PREKMORSKA PLOVIDBA . . . . .	3



## CHAPTER XLII

# The Royal Navy, Imperial Communications and Sea Power.

A PROMINENT man once said something to the effect that "History repeats itself because people were too foolish ever to learn from past events."

How true this is has never been more evident than at the present time.

Until the time of the Tudors no serious attempt was made to keep a regular fleet of purely fighting ships in existence and even then, in times of peace, the ships were more often than not hired out to merchants for trading purposes.

Long before that, ships had been held more or less at the nation's disposal in the event of emergency and the Cinque Ports fleet might almost be reckoned as the first British navy; founded towards the end of the eleventh century, it required the five ports of Sandwich, Dover, Hythe, Romney and Hastings to maintain and provide for the King's use a certain number of ships in return for certain privileges. Long afterwards, the towns of Winchelsea and Rye were added to the list, and places such as Deal and Walmer acted as limbs.

King John, King Henry VIII, King Charles I and King James II, all among the most abused of English monarchs, were among the few men who realised the importance of a navy and who made strenuous efforts to achieve its establishment.

## **Ships and the Sea**

The primary cause of the Civil War was the revolt of wealthy men of commerce against the imposition of Ship Money by the King.

The whole of British history shows that our misfortunes have come at a time when we have been defenceless against external attack; the Norsemen and the Normans conquered the country; the Dutch, six centuries later, sailed up the Thames and ravaged our shipping; the first Empire was lost owing to the inability to keep open our lines of communication.

Apart from these major tragedies, our coasts were constantly being ravaged by Frenchmen, and Pretenders and Usurpers landed unchecked.

The history of the world shows the same thing everywhere; ancient Greece, Carthage and Rome fell because of their inability to keep secure on the sea.

Spain lost an Empire in the sixteenth century; part of another in the nineteenth, and the remainder in the war with the United States in the present century.

Portugal lost an Empire and so did Holland.

Britain became supreme at sea after the Napoleonic Wars but she did not forbid the seas to others.

Are we to be added to the long list of peoples who lost their heritage because they refused to pay the price of Admiralty?

The end of the Great War left us still supreme at sea after a struggle that nearly brought us and Western civilization to our knees. Upon the Royal Navy alone our security rested and we were saved.

At one period of the war we had just over six weeks supply of necessary food in the country and our merchant vessels were being sunk in hundreds.

Then, we had something over 120 cruisers; now we have 50 and Imperial defence is rendered infinitely more vulnerable because the very mobility of all our fighting services, as well as a considerable proportion of our merchant ships, is dependent upon supplies of oil-fuel almost entirely obtained from countries outside the British Empire.

## The Royal Navy, Imperial Communications and Sea Power

There are 85,000 miles of ocean routes to protect and along these move, on the average, 1,850 British deep sea merchant vessels every day; in addition there are 1,650 coastal ships.

Fifty thousand tons of food and 110,000 tons of merchandise arrive in the British Isles every day and this, to keep alive 49,000,000 people; the population of the Empire is over 490,000,000. How about our responsibility to them?

It has been publicly stated on more than one occasion by the highest authorities that the *Royal Navy is no longer able to guarantee our security nor to protect our food supplies.*

Air power is here, but however far ahead one can see, it is going to be a long time before 85,000 miles of sea routes can be protected by aircraft; still longer before cargo in any quantities can be transported by air, when it is remembered that an average-sized cargo vessel carries about 8,000 tons weight of cargo.

Nelson's cry was always for more and more cruisers; Lord Jellicoe's was the same more than an hundred years later.

We lost an Admiral and two ships' companies in 1914 because they were pitted against ships with superior armament; they were outranged and outgunned.

Hostilities to-day might mean a continuous series of Coronels, as many of our cruisers are incapable of standing up against their "opposite numbers."

Not only is the Royal Navy reduced to sixty per cent of its 1914 strength but, worse still, it is unable to provide crews for existing ships; training establishments are emptied if it becomes necessary to bring a ship out of reserve and it takes seven years to train a seaman.

The Royal Naval Reserve forms a useful stiffener, but if all Naval Reservists are withdrawn from their work in the Merchant Navy, the latter is crippled.

Our Empire and prosperity has been made possible purely by sea-power and it has only been maintained by sea-power; 21,000,000 tons of British shipping stand

## **Ships and the Sea**

between us and ruin and we seem to glory in the fact that we are quite incapable of protecting it.

God grant that we may never have a terrible awakening; we have been warned time and time again and we prefer not to listen. The very vitals of this Empire have been eaten into and we fail to read the writing on the wall.

Are we fools? are we knaves? or are we merely apathetic and lethargic? refusing steadfastly and pigheadedly to recognise facts until we are actually face to face with problems and tragedies which need never have occurred.

The possession of arms, alone, does not mean aggression; surely it is rather the spirit of a nation that counts. Because a man is a prize fighter, possessing better means of defence than the average man, he does not go about the world knocking people about; because a man has a shot gun to protect his crops he does not shoot his next-door neighbour.

Locks on doors do not invite burglaries, and the possession of an umbrella is no inducement to the Heavens to open.

Thousands of people spend a considerable annual sum on insuring against all and every possible contingency, against their house being burnt down, against losing their personal possessions and jewellery, against the possibility of rain interfering with outdoor sports and against the loss of profits, and yet practically no one gives a thought to the greatest insurance of all—security against attack.

Britain's enemies long ago recognised her weak spot and they have not been inactive; the building up of foreign navies does not necessarily constitute a threat to our security but the constant dwindling of our own does, and the fate of us all and perhaps of civilization itself lies in our own hands.

## CHAPTER XLIII

# Royal Marines and Naval Reserves.

### Royal Fleet Reserve.

THERE is no reserve of officers who have served in the Royal Navy, but continuous service ratings and petty officers are drafted on discharge into the Royal Fleet Reserve for a period of five years.

It therefore constitutes a reserve of *trained professional seamen*, who are liable to be called out by Royal Proclamation in the same way as the other Reserves mentioned below.

### Royal Marines.

Admiral Lord Charles Beresford once said of the Royal Marines, "Their record is second to none. I have been with them on Active Service, Police Service, in daily routine and in gales of wind. I have had them with me everywhere and I tell you there is nothing like the Royal Marines."

This is the opinion of everyone who has come into contact with them.

The Royal Marines had their origin in 1664, when an Order in Council provided for a regiment of 1,200 "Land Soldiers to be distributed into His Majesty's Fleets prepared for Sea Service." The London streets were paraded by soldiery beating up for recruits who quickly came forward, mostly it is supposed from the Trained Bands of the City of London, and the new regiment received the name of the "Duke of York and Albany's Maritime Regiment of Foot." From this origin comes the

## **Ships and the Sea**

privilege, shared by few, of the Royal Marines being allowed to march through the City with drums beating, and with fixed bayonets.

The history and activities of the corps cannot be dealt with here, but it is hoped that it is sufficiently widely known; wherever British warships have gone and wherever landing parties have been put ashore, there have been the Royal Marines playing a leading and glorious rôle.

At the Naval mutinies in the eighteenth century, the Marines remained loyal and from that time their quarters in a ship have always been between the officers and the men, and known as the Barracks.

There were, until the end of the war, two distinct branches, the Royal Marine Light Infantry, or Scarlet Marines, and the Royal Marine Artillery, or Blue Marines, but in the wave of economy which swept the country afterwards, the two were merged to form the Corps of Royal Marines; the scarlet uniform was done away with and all now wear blue in full dress.

Officers and men undergo Infantry Training and instruction in Naval Gunnery and a smaller number are trained in Medium and Heavy land artillery, about one third of the guns of the fleet being manned by them.

They supply buglers, bandsmen and officers' and Wardroom servants.

Officers enter through Sandhurst or Woolwich, but the entire control of the corps is in the hands of the Admiralty. Men serve for twelve years and may then re-engage for a further nine years, after which they are eligible for pension.

The assumed contempt of the men of the Royal Navy and Royal Marines for each other is amusing and not always understood by the uninitiated, because there is actually a very real comradeship and admiration between the two. The Royal Marines are known as "Jollies" or "Leathernecks" by the lower deck and the Royal Marine officer is spoken of as the "Soldier" in the Wardroom.



## Royal Marines and Naval Reserves

### Royal Naval Reserve.

The Royal Naval Reserve is not a body composed of men who have served in the Fighting Service and who have retired, as so many people imagine.

It is a force composed almost entirely of *officers and men of the Merchant Navy*, who enrol in the R.N.R. and who receive naval training with the fleet or at naval establishments during their period of leave from their professional duties.

Thus they are seamen trained in both branches of the sea service.

The Naval Reserve Act was passed in 1859, but it was not until two years later that Commissioned ranks were introduced.

The Royal Naval Reserve can **only** be called out by Royal Proclamation.

During the Great War over 6,000 officers and men gave their lives and over 5,000 decorations and awards were gained.

As an appreciation of their services the uniform was in all respects made the same as that of the Royal Navy, with the exception that the lace on the sleeves consists of half-width intertwined gold lace instead of full-width straight stripes and that midshipmen wear a turnback of royal blue.

When up for training in H.M. ships, officers and men receive the same pay as that of their equivalent rank in the Royal Navy and officers rank in seniority with those in the fighting service.

The flag of the Reserve is the Blue Ensign and it may only be worn by those merchant ships commanded by an officer of the R.N.R., providing that at least seven other officers and ratings in the ship are also members of the Reserve.

The success of the Reserve depends almost entirely upon the support and encouragement given by shipowners, some of whom give every facility to their officers to perform the necessary training, whilst others practically forbid their employees from becoming members.



## **Ships and the Sea**

### **Royal Naval Volunteer Reserve.**

The Royal Naval Volunteer Reserve was originally known as the Royal Naval Artillery Volunteers and it is a reserve similar to the Royal Naval Reserve, except that all its members are *civilians* who go for periodical training in H.M. ships in the same way that the Territorial Army men go into camp with units of the Regular Army.

In addition to the periodical training, officers and men attend at their divisional headquarters throughout the year, a minimum of attendances being necessary.

The divisions are London, Mersey, Severn, Sussex, Tyne, Clyde, East Scottish and Ulster, as well as throughout the Empire at Hong Kong and in Canada, Ceylon, Kenya, Newfoundland, New Zealand, South Africa and the Straits Settlements.

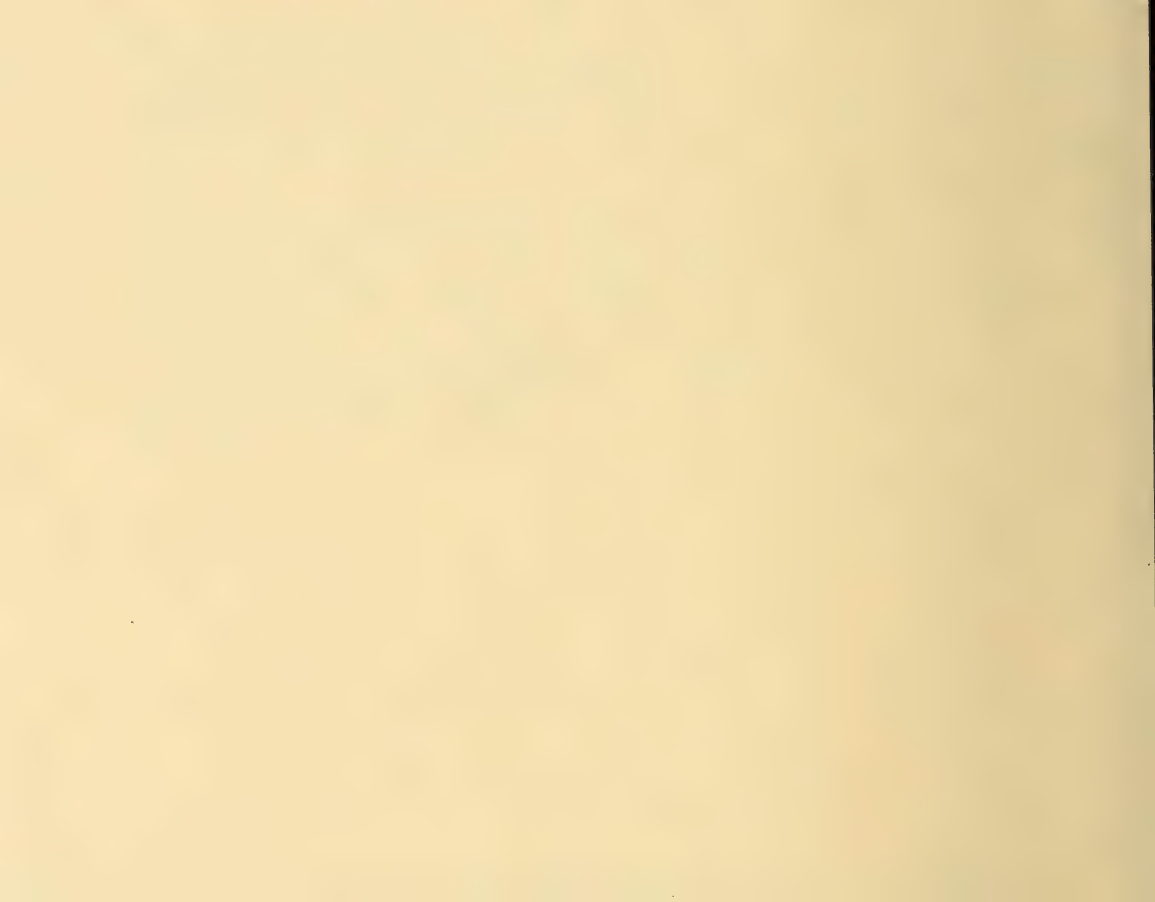
In appreciation of their services in the war the uniforms were altered to conform to those of the Royal Navy in every way, except that midshipmen wear a turnback of maroon and that the gold sleeve lace is narrower and wavy and it is from this that the nickname of "Wavy Navy" originated.

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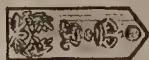
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# DISTINCTIVE MARKS of RANK on SHOULDER STRAPS and SLEEVES of OFFICERS in the ROYAL NAVY



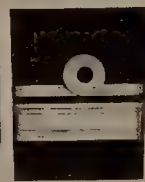
Admiral of the Fleet.



Admiral.



Vice-Admiral.



Rear-Admiral or  
Commodore, First Class.



Commodore,  
Second Class.



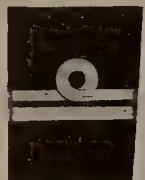
Captain.



Commander.



Lieutenant-  
Commander.



Lieutenant.



Sub-Lieutenant, Mate  
or Commissioned  
Officer from Warrant  
Rank.



Warrant Officer.



Naval Cadet  
(lapel of collar).



Midshipman or Naval  
Cadet.



Midshipman  
(lapel of collar)

The rank of an Officer can be readily seen by the stripes that he wears on his sleeves or by the shoulder straps, and the branch to which he belongs is shown by the colour of the cloth between the gold lace.

Executive Officers wear plain gold lace, but other branches are distinguished by coloured cloth between the gold stripes:—

Engine Officers	..	Purple.	Shipwright Officers	..	Silver Grey.
Medical Officers	..	Scarlet.	Wardmaster Officers	..	Maroon.
Dental Officers	..	Orange.	Electrical Officers	..	Dark Green.
Accountant Officers	..	White.	Ordnance Officers	..	Dark Blue.
Instructor Officers	..	Light Blue.			

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## CHAPTER XLIV

# Naval Ranks and Ratings

**FLAG OFFICERS** are those whose rank entitles them to fly their own flag from ships in which they are serving; that is to say, Rear-Admirals and above. Although a Commodore flies his broad pendant it is not quite in the same category.

*Flag Lieutenant* is a Lieutenant attached to the staff of an Admiral as A.D.C. and is known as "Flags."

*Captain of the Fleet* is the senior officer of Captain's rank in the fleet.

*Flagships* are vessels carrying the flag of a flag officer.

**ADMIRAL OF THE FLEET.**—Limited in number to about seven; instituted after Trafalgar as a separate rank, although previous to that the Admiral in command of the senior squadron of a fleet bore the title.

**ADMIRAL.**—A word of Arabic extraction, meaning "Lord of the Sea." In use in the French Navy before our own and it first appears in English records towards the close of the thirteenth century. An Admiral is the senior Naval officer in a large fleet or establishment. He is carried more or less as a passenger in the flagship, his duties being confined to the fleet and not to the individual ship in which he lives.

**VICE-ADMIRAL.**—Immediately junior to an Admiral and either next in command or else commands a section of the fleet.

**REAR-ADMIRAL.**—Next below a Vice-Admiral; also commands a squadron or section of the fleet.

**COMMODORE.**—A temporary rank or an appointment, similar to that of Brigadier or Colonel Commandant in the army. A Commodore is often in charge of Naval

## Ships and the Sea

Barracks or in command of a Destroyer flotilla. Introduced in about 1695 and originally applied only to the senior officer of a merchant fleet, in which capacity it has been revived in recent years.

CAPTAIN.—The highest rank of an officer in command of an individual ship; originally was the Army officer in charge of the troops embarked for fighting purposes, as opposed to the Master who was in charge of the ship. The supreme authority in a warship, he lives apart from the other officers and only enters the Wardroom at the invitation of wardroom officers. Until 1815 the rank of *Post-Captain* appeared in the Navy List and he was an officer in command of the first six rates of ships only. Strictly speaking, even to-day the term Post-Captain should still be applied to those captains actually holding authoritative appointments. For example, a Captain in command of a warship is a Post-Captain whereas a Captain undergoing a course or otherwise not in command, is not a Post-Captain. A Captain is known as "The Owner" or "The Skipper" familiarly.

COMMANDER.—The senior executive officer in a ship and in a ship not carrying a Captain, is its Commanding Officer. Responsible for the whole of the upper-deck personnel and for the efficiency and smooth-working of the ship. Lives in the Wardroom and is spoken of as "The Bloke" by the lower deck. The name Commander came in in 1794, although previous to that it had been used in conjunction with other words. Because a Commander often has complete charge of small ships he is sometimes given the courtesy title of Captain (or "head"); this also being bestowed because in the days after the Napoleonic wars there was a surplus of Commanders and in order to give them employment they were appointed to battleships as "No. 2 Captains."

LIEUTENANT-COMMANDER.—The actual rank was authorised in 1914, previous to which the term was "Lieutenant of over eight years' seniority," the narrow or half-stripe having been worn since 1877. The Senior Lieutenant-Commander is



## Naval Ranks and Ratings

known as "Number One" and he is more often than not the Navigating Officer or "Pilot."

At present there is a very large surplus of Lieutenant-Commanders in the Service, owing to blockage in the higher ranks on account of shortage of ships, and sometimes they have to assist the junior watch-keeping officers, a large ship often carrying more "Two-and-a-half stripers" than Lieutenants.

LIEUTENANT.—First reference to a Naval Lieutenant was in 1580 and comes from the French words "lieu," in place of, and "tenant," holding, that is, holding rank instead of the Captain.

The lowest rank of Wardroom officer.

SUB-LIEUTENANT.—Instituted in 1802 as a temporary relief to Midshipmen who had passed their examinations for higher rank but for whom no vacancy existed on the Lieutenants' list. Finally established in 1862.

The "Sub" is in charge of the Gun-room, or junior officers' mess.

MIDSHIPMAN.—First mentioned in Queen Elizabeth's time and until the Commonwealth were *seamen* of at least seven years' service who worked amidships and who corresponded to the modern Petty Officer. First recognised as an Officer's rank in 1748 and to-day receive Appointments and not Commissions. They are very hard-worked and have charge of the picquet boats and thus acquire a considerable knowledge of boat-work.

Known as "Snotties" throughout the service. They wear dirks and round jackets instead of the other officers' sword and frock coat.

CADET.—The lowest rank of Naval officer, the title being introduced in 1844.

WARRANT OFFICERS.—Officers holding warrants in place of commissions; all appointed from the lower deck and correspond to Regimental Sergeant-Majors and Company Sergeant-Majors in the Army; live apart and wear cocked hats, sword and frock-coat on ceremonial occasions.

## **Ships and the Sea**

**CHIEF PETTY-OFFICERS and PETTY OFFICERS.**—The N.C.O.'s and constitute the backbone of the service.

**LEADING SEAMAN.**—A higher grade of Able-Seaman. The step between the latter and a Petty Officer.

**ABLE-SEAMAN.**—The highest grade of seaman other than Leading Seaman.

**ORDINARY-SEAMAN.**—The first step above the bottom rung.

**BOY.**—The lowest rating in a warship.

**ENGINEER OFFICERS.**—The highest rank of engineer officer is that of Vice-Admiral; otherwise ranks are the same as those in executive branch, with word "Engineer" prefixed. Their duties are self-explanatory.

**SURGEON OFFICERS.**—The highest rank is that of Vice-Admiral; otherwise ranks are same as executive branch, starting with Sub-Lieutenant and with prefix "Surgeon."

**ACCOUNTANT OFFICERS or PAYMASTERS.**—The highest rank is Vice-Admiral; otherwise ranks are the same as executive, with prefix "Paymaster." Paymaster-Cadets and Paymaster-Midshipmen are privileged to wear frock-coat and sword. Accountant officers have charge of all the secretarial and clerical work in a ship or establishment; they have charge of all payments, victualling, clothing, coding and cyphering work. They act as Judge-Advocates at Naval Courts Martial. In action they assist the gunnery or torpedo officers if not occupied in cyphering or they take official notes of the action. They are probably in charge of the anti-gassing arrangements in a ship and they are expected to have a thorough knowledge of all naval laws, regulations and procedure as well as International law and to act as guide, counsellor and friend to their brother officers.

Paymasters act as personal secretaries to Captains and Flag Officers, the junior-paymaster in a ship usually acting in this capacity to the Captain and known as "The Secretary."

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3-



# HOW TO DISTINGUISH THE PETTY OFFICERS, MEN AND BOYS OF THE ROYAL NAVY



- (1) Gunner's Mate. (2) Gunlayer, 1st Class. (3) Gunlayer, 2nd Class. (4) Captain of the Gun, 1st Class. (5) Seamen Gunner. (6) Rangetaker, 1st Class. (7) Rangetaker, 2nd Class. (8) Rangetaker, 3rd Class. (9) Torpedo Gunner's Mate. (10) Torpedo Coxswain. (11) Leading Torpedoman. (12) Seaman Torpedoman. (13) Diver. (14) Yeoman of Signals. (15 and 16) Leading Signalmen. (17) Signalmen. (18) Petty Officer Telegraphist. (19 and 20) Leading Telegraphist. (21) Telegraphist. (22) Physical and Recreational Training Instructor, 1st Class. (23) Physical and Recreational Training Instructor, 2nd Class. (24) Good Shooting Badge. (25) Mechanician. (26) Stoker Petty Officer. (27) Stoker, 1st Class. (28) Chief Armourer. (29) Chief Shipwright. (30) Chief Petty Officer Artisan. (31) Shipwrights and Artisans. (32) Master-at-Arms. (33) Regulating Petty Officer. (34) Sick Berth Rating. (35) Submarine Detector Instructor. (36) Submarine Detector Operator, 2nd Class. (37) Submarine Detector Operator, 3rd Class. (38) Writer. (39) Supply Rating. (40) Cook. (41) Officer's Steward. (42) Officer's Cook. (43) Bugler. (44) Telegraphist Air Gunner. (45) Leading Seaman. (46) Petty Officer. (47) Chief Petty Officer Cap Badge. (48) Petty Officer Cap Badge.

FEDERAL BUREAU OF INVESTIGATION OF THE  
UNITED STATES DEPARTMENT OF JUSTICE



## Naval Ranks and Ratings

### Equivalent Ranks in the Three Services.

Naval Officers are senior to officers of equivalent rank in the other services.

Ranks in the Royal Marines are the same as in the Army and carry the same seniority, except that a Major of Marines afloat ranks with a Naval Commander.

<i>Royal Navy.</i>	<i>Army.</i>	<i>Royal Air Force.</i>
Admiral of the Fleet.	Field-Marshal.	Marshal of the Royal Air Force.
Admiral.	General.	Air Chief Marshal.
Vice-Admiral.	Lieutenant-General.	Air Marshal.
Rear-Admiral.	Major-General.	Air Vice-Marshal.
Commodore.	Brigadier or Colonel Commandant.	Air Commodore.
Captain.	Colonel.	Group Captain.
Commander.	Lieutenant-Colonel.	Wing-Commander.
Lieutenant-Commander.	Major.	Squadron-Leader.
Lieutenant.	Captain.	Flight-Lieutenant.
Sub-Lieutenant and Commissioned Warrant Officer.	Lieutenant.	Flying Officer or Observation Officer.
Midshipman and Warrant Officer.	Second-Lieutenant.	Pilot Officer.



## CHAPTER XLV

# Naval Uniforms

UNIFORM regulations were not laid down for the Royal Navy until 1748 for officers and 1857 for the lower deck, although many ship's companies were dressed alike for years previously and a more or less standard system prevailed.

Much latitude was allowed, however, and some officers appeared to favour red coats and others grey with red facings—some dressed their ship's companies in weird rig-outs.

Blue and white was finally chosen and it was said that the choice was made by King George II, who was so struck by the appearance of the First Lord's wife, the Duchess of Bedford, who was riding in the Row in a habit of these colours.

The uniforms have undergone much change since those days but the prevailing colours of blue and white remain.

In 1885 white uniform was authorised for foreign stations.

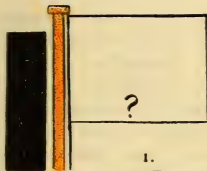
In 1915 engineer officers were granted the curl in the upper row of lace and in 1918 this was extended to Accountant officers and Surgeons.

AIGUILLETES (ropes of gold lace hung from the shoulder) are worn by officers of any branch serving on the personal staff of a Flag Officer or Commodore.

Such officers and Naval Attachés wear them on the *left shoulder*.

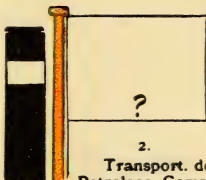
Aides-de-Camp to the King, Admirals of the Fleet and Honorary Physicians and Surgeons to the King, wear them on the *right shoulder*.

# ARGENTINE



1.

Import. y Export. de  
la Patagonia, S.A.



2.

Transport. de  
Petroleos, Comp.  
(Tankers.)



3

Argentina, C. de N  
Mihanovich



## Naval Uniforms

These originate from the old days when a General's A.D.C. used to carry rope and tent pegs for the purpose of hobbling his own and his chief's horse and for convenience he carried them over his shoulder.

The branch to which an officer belongs is indicated by the coloured cloth worn between the stripes as under:—

EXECUTIVE.—No coloured cloth.

ENGINEER.—Purple.

SURGEON.—Scarlet.

DENTAL.—Orange.

ACCOUNTANT.—White.

INSTRUCTORS.—Light Blue.

SHIPWRIGHT AND CONSTRUCTORS.—Silver Grey.

ELECTRICAL.—DARK GREEN.

ORDNANCE.—Dark Blue.

Rank is indicated on each sleeve, except on the great-coat and in white uniform when it is worn on shoulder-straps.

Midshipmen and Cadets wear no rank on sleeve but the former wear, on each side of the collar, a white patch with a buttonhole of white twist and the latter the same without the patch.

Paymaster-Midshipmen and Paymaster-Cadets wear on sleeve and shoulder straps one half-width white stripe.

White cap covers are worn in home waters from May 1st to September 30th, both dates inclusive.

DISTINGUISHING BADGES—SHIP'S COMPANY.

Petty Officers and men, whether dressed as seamen or not, wear the *rank badges* and good conduct stripes on the *left arm* and *non-substantive badges* on the *right arm*.

## **Ships and the Sea**

*Petty Officers* (confirmed) wear jackets instead of jumpers; single breasted for working dress and double-breasted for Number I Dress.

*Chief Petty Officers* wear similar jackets with the addition of three large gilt buttons on each sleeve; they do not wear good conduct badges but wear their non-substantive badges on the collar of their jackets.

*Seamen of the Royal Yacht* wear cloth trousers and frocks in place of serge, as commanded by King Edward VII in 1906, when serge was introduced into the rest of the Service.



1

American Petroleum  
Co., S.A. Belge  
(Tankers.)

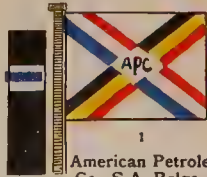


6. Belgian State  
Railways.  
(Flag worn as Ensign.)

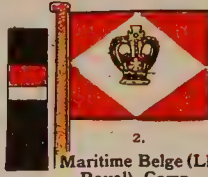




# BELGIUM



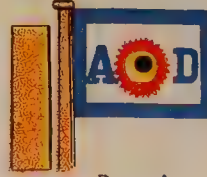
1  
American Petroleum  
Co., S.A. Belge  
(Tankers.)



2.  
Maritime Belge (Lloyd  
Royal), Comp.  
(Grey hulls.)



3.  
Maritime Belge (Lloyd  
Royal), Comp.  
grey hulls.



4. Deppe, Armement



5.  
Belgo-Argentine, Cie  
Royale



6. Belgian State  
Railways.  
(Flag worn as Ensign.)



7. John Cockerill, S.A.



8.  
Belgian Gulf Oil Co.,  
S.A.  
(Tankers.)



9. "Cie Dens-Ocean,"  
S.A.



## CHAPTER XLVI

# Naval Traditions and Customs

[T is safe to say that no service in the world has such a wealth of tradition, customs and unwritten laws as the Royal Navy. The reason or origin for some is obvious, whilst that for others is lost in antiquity and can at best only be conjectured.

Perhaps the best known to outsiders is that of *saluting the Quarter-deck*. Every officer or rating salutes the Quarter-deck and the most popularly held belief is that it originated from the days when a shrine or crucifix was carried aft and men crossed themselves or showed respect accordingly. Another theory is that it is saluted as being the place of command, the salute being for the Royal Authority behind the command.

Officers salute when *coming and going over the ship's side* also, and a civilian should raise his hat in the same way.

*The Junior Officer gets into a boat first and leaves it last*, unless he receives permission to do otherwise. One theory is that in the days when old wooden ships had high sides and were usually given a fresh coat of tar or paint when arriving off a port after being many days at sea, the junior officers managed to scrape off most of it on to their clothes before the turn came for the senior to come down. The most probable is, that it is merely a matter of courtesy to prevent keeping senior officers waiting in the small boat whilst juniors are coming down the gangway and to achieve the same effect at the other end.

If the boat of some other ship has to be crossed to reach that of an officer's own

## Ships and the Sea

it is customary to ask the midshipman or coxswain in charge, "May I cross your boat please"; this is obviously just common courtesy.

*Crossing the line celebrations* are probably the continuation of ages old religious rites; the Carthaginians sacrificed to their gods on passing the "limits of navigation," that is, to them, the Straits of Gibraltar; it is mentioned that in 1675 everyone had to pay a dollar or be ducked at the yard arm in passing through the Straits. In the eighteenth century also there were celebrations for passing through the Straits. The Norsemen held very special tests before a man was admitted to their navy and this may have something to do with the custom of having to pay a fine or to be "tested."

The Royal Marine sentry on the forecastle always *fires his rifle at sunset*, a relic of the old days of flint-lock muskets, when it was done to ensure that the musket was properly charged for the hours of darkness.

*Firing salutes* is a very old custom and was originally done with shotted guns. Not only are salutes fired on Royal birthdays, etc., but upon entering a foreign port the flag or office of the governor of the town is saluted.

People of rank, both in and out of the Service, are also entitled to salutes from guns and there is a very rigid etiquette regarding it.

Always an odd number of guns is fired, the top number for saluting rank being a Royal Salute of twenty-one guns. An Admiral of the Fleet is entitled to 19 and so on down the scale.

The order of precedence of some of the ruling princes of India often causes confusion and it is always better to give more than the expected number, than less.

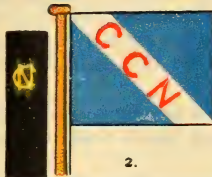
Quite recently it was laid down that His Holiness the Pope shall be saluted on occasions when he may happen to be in a town or place visited by a British warship and he is entitled to one of twenty-one guns.

One theory for courtesy salutes is that by having to unload guns for the purpose of saluting it was proof that a ship came to a port on a friendly visit.

# BRAZIL

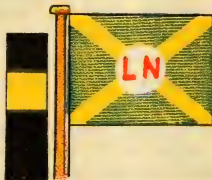


1. Costeira, C.N. de N.



2.

Pereira, Carneira &  
Cia. Ltda.



3. Lloyd Nacional, S.A.



4.

Lloyd Brasileiro, C.  
de N.

# INDEX



## Naval Traditions and Customs

The same theory applies to *Manning-ship*, because if everyone is on deck or aloft, the guns cannot be fired.

*Saluting Colours.*—When Colours are hoisted in the morning they are saluted by the Colour Guard and by the band if the ship carries one; every officer who happens to be on deck turns aft and salutes while the National Anthem is being played; if in a foreign port, the National Anthem of that country is played after “The King.” This custom of guard for the Colours was instituted in 1797 by Lord St. Vincent, after the mutinies of that year.

*Colours.* Colours for carrying when ashore in the same way as colours in the Army were only granted to the Royal Navy after the war; each Naval port has the King’s Colour and the White Ensign defaced by a badge.

*King’s Health* is always drunk seated unless foreign officers are present. It is a much cherished privilege and there are many theories regarding its origin.

The popular belief is that William IV, when serving in a warship, bumped his head against one of the beams in responding to this toast. Another is that George IV when Regent dined on board a man-of-war and, as the officers rose to drink his health he said, “Gentlemen, pray be seated, your loyalty is above suspicion.”

Quite possibly it may have originated because it was sometimes difficult to stand on account of the rolling of the ship.

The President of the Wardroom Mess taps on the table with a mallet, and says, “Mr. Vice—the King,” whereupon the Vice-President, the officer who happens to be at the foot of the table, lifts his glass and repeats, “Gentlemen—the King”; every officer present raises his glass whether there is anything in it or not and toasts “The King,” sometimes accompanied by “God bless him.”

*Passing of the Wine.* Decanters of port and sherry are placed at the head, and



## Ships and the Sea

in the case of a large mess, at the foot as well, of the table with the dessert course and before the above ceremony, they are passed down each side, from right to left, when officers may, if they wish, charge their glasses.

No one may smoke before the King's health is drunk—and it is courtesy not to light up even then until the President has done so or until he has given his permission.

The King's health may be drunk in water if preferred.

On Saturday nights at sea the toast in addition to "The King" is "Sweethearts and Wives." The reply is made by the junior unmarried officer present..

*Table Etiquette.* If an officer is late for dinner he must apologize to the Mess President or he renders himself liable to a fine of port.

No officer may leave the table before the passing of the wine without first asking permission of the President, who is elected weekly by the Mess Committee.

There is no seating precedence at table beyond the fact that the President takes the head of the table, and no one need sit at the same place twice running unless he so desires. In this way the junior officer in the Mess may find himself next to the Commander, or even the Captain, if the latter is a guest of the Wardroom officers.

An officer may ask for the wine to be passed round at his expense on occasions of his birthday, promotion, or if he is leaving to take up another appointment.

Civilians dining in a warship should wear full evening dress even if the officers are wearing mess "undress" (corresponding to dinner jacket ashore).

If the glasses are clinked accidentally it is said to be a forerunner of a sailor's death and may render the offender liable to a fine of port.

*Make and Mend.* One afternoon a week, in addition to the week-end, is allowed as a holiday; it is usually a Thursday but can be varied to suit the convenience of the ship. On these days men used to, and still do, make and mend their clothes.

*Quarter-deck.* The quarter-deck is reserved for the use of officers. If the Captain comes on deck the other officers cross to the port side, a custom from the old days

# CHILI



1.

Sud Americana de  
Vap., Comp.



2.

Braun and Blanchard,  
S.A. Comp.



3.

Schwager, Cia.  
Carbon. y de Fund.



## Naval Traditions and Customs

when the port side was the side brought alongside the quay and in consequence hampered by brows and gangways.

*Starboard Side.* For the above reason, the starboard side is the place of honour and senior officers and distinguished visitors are brought on board over this side if possible.

*Piping on Board.* A very old custom, for which there is no actual authentic origin beyond the general custom of announcing all distinguished persons by fanfares of trumpets and so on. In sailing ship days, Captains visiting other ships often had to be hoisted on board in rough weather in Boatswains' chairs and pipes or calls had to be used to give the signal to hoist and vast (stop) hoisting.

It is now customary to pipe twice, but in earlier days it was done three times.

*Splicing the Main Brace.* The issue of an extra tot of rum; given very sparingly after a particularly arduous job or generally on some big occasion. The only three occasions on which the signal has been made since the war were on Armistice Day, 1918, by order of the Commander-in-Chief, on the occasion of his late Majesty's inspection of the Fleet in 1931 and after the Jubilee Review in July, 1935.

*Oath of Allegiance.* Officers of the Royal Navy and Royal Naval Reserve are not required to take the oath of allegiance to the Sovereign as their loyalty is taken for granted. This is a very cherished privilege not applying to the Royal Naval Volunteer Reserve.

*Small Boats.* Getting in and out of boats has already been mentioned. The seats right aft are the seats of honour reserved for the senior officers. Boats with Gunroom officers only, come alongside the port gangway if there is one out on either side, for reasons already mentioned. At night, boats under way are hailed by ships with cry, "Boat ahoy," and the answers are:

If the boat coming alongside carries the Flag Officer or Captain, "the name of the ship," prefixed by "Flag". If coming alongside with Wardroom officers, "Aye Aye!" and with Gunroom officers, "No, no!"

## **Ships and the Sea**

Should the boat be passing the answer to the challenge will be "Passing."

*No weapon must be drawn in a mess* without penalties and finally, speak of men as living *in* ships not *on* them; you don't live on a house and a good story is that of the old lady during the war, who told an acquaintance that her grandson, had a dreadful time out in the cold North Sea living on a torpedo, when all the time she wished to indicate that he lived in a (torpedo-boat) destroyer.

## CHAPTER XLVII

# Ships' Badges and Naval Heraldry

THE origins and associations of flags used at sea have already been discussed in a separate chapter but there is a tremendous amount of interest to be had in the study of warship badges as well.

From this year (1936) the designing of badges for ships of the Royal Navy has been in the hands of the Clarenceux King of Arms at the Royal College of Heraldry.

Prior to the close of the war, in 1918, there was no system for allotting badges and crests and they were frequently the results of the artistic ingenuity of the commanding officers; perhaps a new Commander disapproved of the badge chosen by his predecessor, so that a multiplicity of designs for the same ship sprang up.

Some of these unofficial badges were most ingenious and not always complimentary, although those for ships named after towns, cities or famous men were more often than not derived from the arms of the man or city as they are to-day. Here again, however, some were not correct because certain old-time Admirals and persons of rank adopted arms to which they were not entitled.

The badge of H.M.S. *Vivacious* was a portrait of Mr. Lloyd George, whilst H.M.S. *Tormentor* had as her badge a large flea. One of the most popular in the fleet was that of H.M.S. *Vanity*, which depicted an alluring mermaid gazing at her reflected beauty in a hand mirror and the motto read: "If this be vanity who'd be wise."

H.M.S. *Conqueror* chose the figure of Father Time with motto: "Tempus Omnia

## Ships and the Sea

Vincit." H.M. Destroyer *Flirt* adopted a butterfly and H.M.S. *Spitfire* had a cat with arched back and open mouth.

All these were attractive but as has been said, they varied considerably from time to time and so in 1918 Major ffoulkes suggested that a regular system should be introduced; the Admiralty agreed and Major ffoulkes held the post of honorary adviser until recently and was responsible for the design of over 550 badges.

In order to be able to distinguish from a distance what class of ship the boats belonged to, it was decided to have different shapes for different classes and tests were carried out at Westminster to decide upon the most appropriate.

As a result, the badges were fixed as follows: circular for Capital Ships, pentagonal for Cruisers, shield-shaped for Destroyers and diamond-shaped for all other classes. Each is enclosed by a border of cable and surmounted by the Naval Crown.

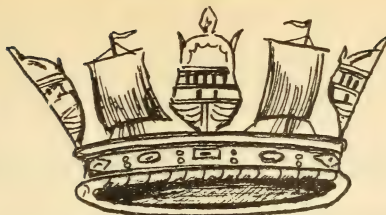
The Naval Crown is very old and in a book dated 1746 called *Signals for R.N. Convoys and Sailing and Fighting Instructions*, there is an illustration of one with the following description: "Naval or Rostral Crown anciently given to the officers, etc., who were the first to grapple or board an enemy's ship," it is made up from sterns and sails of ships.

At present the official badge is exhibited on the bows of the ship's boats, sometimes up in front of the bridge of the ship, and usually on the inside of the doors leading into the after superstructure or the Captain's quarters.

The same, or part of the same, badge usually appears on the brass tampions at the muzzles of the guns, although occasionally this may be a different one.

The crest on the ship's note-paper and on ash-trays or mess plate is also usually all or a portion of the same badge, with the motto and name beneath on a scroll. Flagships often have a representation of the flag on their note-paper, and some ships boast more than one crest.





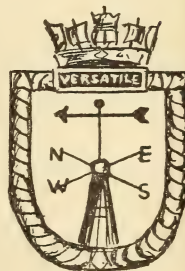
*Naval Crown.*



*H.M.S. "Hood."  
Battle-Cruiser.*



*H.M.S. "London."  
Cruiser.*



*H.M.S. "Versatile."  
Destroyer.*

## Ships and the Sea

At regattas and concerts there is usually a large representation of the ship's badge prominently displayed to give encouragement to those taking part.

The finding of suitable badges for some ships was extremely difficult, especially so for those named on the alphabetical system; those taking names of flowers or animals presented no such difficulty but there are still some very clever ones in existence.

H.M.S. *Whitley* displays the Speaker's Mace, Mr. J. H. Whitley being at that time Speaker of the House; H.M.S. *Sterling* shows a golden sovereign, with the motto, "Good as Gold."

There are interesting histories about the names of these two vessels because the first was to have been called "Whitby" after the town and the second, "Stirling" also after the town of that name, but typists' errors occurred and the errors were not discovered until countless papers and books had been prepared and so to save the expense of new copies, the mistakes were allowed to stand.

H.M.S. *Dainty* has a lady's fan with the motto "Dulce Quod Utile," whilst that of H.M.S. *Eclipse* is particularly subtle; it shows the golden sun almost eclipsed by the black disc of the moon and bears the motto "Nunquam."

H.M.S. *Tactician* has a chess-board with the word "Check-mate."

There is interesting history behind most of them and apart from their aesthetic value they help us to learn and prize the Royal Navy's traditions and a final example will suffice; H.M.S. *Vindictive* has for a badge a masculine right hand grasping a curved broad sword or scimitar; so far this is the same as that borne by her predecessors, but to perpetuate her immediate predecessor's gallant action on St. George's Day, 1918, the arm is shown protruding from a white smoke-screen significant of the smoke cloud used on that occasion.

## CHAPTER XLVIII

# Types of Warships

### Capital Ships.

CAPITAL ship is the name given to a warship powerful enough to lie in the line of battle corresponding to the line of battleship in the days of sail. There are two types to-day, the battleship and the battle-cruiser, but the latter type is dying out and it is doubtful if any further will be built.

BATTLESHIPS.—Until the advent of the *Dreadnought* in 1907, battleship design had proceeded on very similar lines throughout the world for many years; ships had been equipped with four large guns arranged in two turrets, one forward and one aft and a battery of smaller guns distributed along the broadside. Certain steps forward had been taken just before the *Dreadnought* by introducing 9·2-inch guns into this battery in place of 6-inch.

*Dreadnought* staggered the world by having ten large guns, and all subsequent ships throughout the world were designed on this “all big-gun” principle and were known as dreadnoughts or super dreadnoughts.

Improvements in design were introduced into each succeeding class and the size of the big gun was increased from 12-inch, through 13·5 and 15 to the present 16-inch in triple turrets of the *Nelson* class.

The most successful group of capital ships ever designed anywhere is the *Queen Elizabeth* class carrying eight 15-inch guns apiece, all arranged on the centre line,

## Ships and the Sea

but the ships are very old now and it is difficult to know what form of ship is going to replace them.

BATTLE-CRUISERS.—Were introduced in 1911 and were first called "Dreadnought cruisers" because they introduced into the large armoured cruisers the dreadnought principle of all big guns. They were not originally intended for the line of battle, as, to attain their very high speed, much greater than that of battleships, they had to sacrifice much armour and protection. Their prime rôle was to support cruiser squadrons, a rôle they filled to perfection at the Falklands Battle and not to act as battle squadrons, as at Jutland, where the type suffered heavily.

H.M.S. *Hood* is the largest warship afloat and the finest type of battle-cruiser, although in her case she might almost be described as a fast battleship, because she has had so much armour protection worked into her since she was completed.

### Cruisers.

The term cruiser covers a very wide type of ship, ranging from the large 8-inch gunned ships of the "Treaty" types down to small ships which are little larger than destroyer flotilla leaders. Large numbers of cruisers are required, rather than large ships of individual superiority, in order to protect the trade routes.

Cruisers also act as advance "eyes" for the fleet in the same way as the frigates of Nelson's day, and the fleet has always been crippled by the shortage of these light ships.

Cruiser design, last century and early this, advanced until the heavy armoured cruiser became the battle-cruiser and constructional design seems to go in cycles.

During the war, large numbers of light cruisers were built and more required, but to-day we are back to the heavy type, almost the same as the old armoured cruiser although lacking the latter's protection.

## Types of Warships

The latest types, however, seem to show a return to sanity and our greatest need is for a large fleet of fast, comparatively small ships for commerce protection and for showing the flag in distant ports.

### Aircraft Carriers.

This type only developed during and since the Great War; in the early days liners and small fast cross-channel ships were taken over and adapted to carry seaplanes. Still further developments took place when very extensive alterations were made to ships, and they were practically entirely rebuilt and re-modelled as a definite type, such as the *Argus*, which was actually being built in this country as an Italian liner.

The first ship actually designed and built as an aircraft carrier was *Hermes* and she has proved very successful. The giant carriers of all nations were originally laid down as cruisers or battleships. One type has no funnels or superstructure at all, the smoke and gases being taken over the stern by ducts running along the sides and another type has all superstructure pushed over to one side, both types having the effect of leaving a very large unencumbered flight deck upon which planes can land or from which they can take off.

The large carrier is a mixed blessing on account of her size and the amount of protection she needs in the way of destroyer screens; she is very lightly armed and protected and one heavy bomb on her vast flight deck would almost put her out of action.

The modern tendency is for smaller, less unwieldy craft, and for each capital ship and cruiser to carry her own plane which can be catapulted off a turntable or from the top of a turret.

## **Ships and the Sea**

### **Destroyers and Flotilla Leaders.**

Towards the close of last century a very small fast ship called a torpedo boat was introduced into the world's navies; she was practically unprotected and carried torpedoes with the idea of creeping among the enemy fleet under cover of darkness, delivering the deathblow and dashing away before she could be caught; to counter these a type of craft called "Torpedo Catcher" or "Torpedo Gunboat" was designed, but their speed was quite inadequate for the purpose and they proved unsatisfactory. During the Russo-Japanese War of 1904 torpedo boats of an enlarged type proved ideal for the double duty of acting as torpedo boats and for hunting down and destroying the smaller craft. Gradually this type completely superseded the torpedo boat, and the torpedo boat destroyer has become the destroyer of to-day, the most useful class of ship in the whole service.

A flotilla leader is merely an enlarged destroyer fitted with accommodation for the senior officer commanding the flotilla and the size has increased in some navies until it has become almost a light cruiser.

A British destroyer flotilla consists of eight destroyers and one leader.

### **Submarines.**

The first submarines were placed in commission in the Royal Navy in 1902 and were small boats capable of remaining under water for three hours, with no living quarters for the crew, which numbered six.

The largest ship in the Service now is the "X.I." carrying a crew of 110 and armed with four 5·2-inch guns in addition to six torpedo tubes.

During the war very large submarines were built which were driven by steam when on the surface in order to give them a speed which bore comparison with the battle fleet.



### Small Craft and Auxiliaries.

In addition to the craft mentioned above there are minesweepers and minelayers, sloops and river gunboats, principally in use on the Yangtze, and various types of repair and floating depôt ships capable of supplying the needs of most units of the fleet beyond large refits which necessitate a visit to the dockyards,



## CHAPTER XLIX

# British Naval Weapons

UNTIL recently all large modern naval guns were wire-wound, that is to say the inner tube was wound round with as much as 150 miles of wire.

The *Calibre* is the diameter of the bore and guns are spoken of as being of so many calibres in length.

*Muzzle Velocity* is the speed with which the shell leaves the gun, probably as much as 3,150 feet per second.

*Muzzle Energy* is the force or energy with which the shell leaves the gun, and is probably as much as 84,000 foot tons.

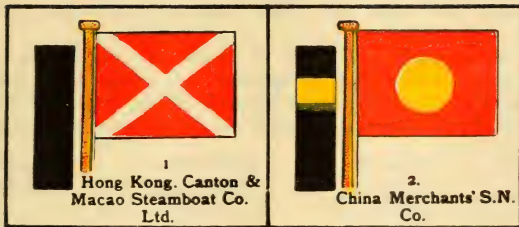
The hundred-pound 6 inch shell is the heaviest to be man-handled, all the rest being loaded into the guns by hydraulic lifts.

All guns above and including 8 inch are in turrets and so are some of the 6 inch.

The remainder are in shields or behind splinter screens.

Until the *Nelson* class of ship we never had more than two guns in each turret, although the United States had long adopted the idea and had been followed in a modified way by Russia and Italy. It was thought that the third gun deflected somewhat from accurate shooting and that it was concentrating too much in one turret which, in the event of a lucky shot, could be put out of action completely; it was adopted by us because of the need to economise weight.

# CHINA





## British Naval Weapons

Nowadays all turret guns are placed on the centre line of the ship, the most satisfactory system; previous to that they had been tried "en echelon" or stepways across the deck but the strain on the sides of the ship were too great, and then came the superimposed gun, one turret firing above another, and we were the first to adopt this in destroyers, a method which has since been copied by practically all navies.

The Main or Primary Armament in the heavy ships means the turret guns, and the Secondary Armament, the batteries of lighter guns, usually distributed along the sides and originally put in with the idea of beating off destroyer attacks.

The principal guns in use in the Service to-day are as below:—

CALIBRE (in inches)	LENGTH (in calibres)	WEIGHT (in tons)	WEIGHT OF SHELL (in lbs.)
16	45	103½	2,461
15	42	97	1,920
8	55	16½	256
7·5	45-50	13½-16	200
6	45-50	6¾- 8½	100
5·5	50	6	82
4·7	40-50	3	45-50
4	40-45	1¼- 2	31
3	45	1	12-16
"Pom-pom"	40	1¾ cwt.	2

### Mines, Torpedoes and Depth Charges.

The old type torpedo used to be a sort of rocket-like looking affair, fixed on to the end of a pole which was held by a bold operator standing in a small, fast-moving

## Ships and the Sea

boat, and which was discharged upon the latter's coming right on to the enemy ship, with very much more prospect of blowing the operator to pieces than of doing much harm to the intended victim.

The modern torpedo is discharged from surface or submerged tubes, and on striking the water it is propelled by its own engines and kept on its course by gyroscopes.

Most destroyers have deck tubes, sometimes grouped in threes or fours, and most capital ships have them submerged well below the water-line.

The torpedo is driven by compressed air stored in an air-chamber and the air on being released is heated and expanded in a small engine which turns twin screws, one moving "clockwise" and the other "anti-clockwise." The war-head contains about 200 pounds of wet gun-cotton and is exploded on contact with the enemy ship.

It is about twenty feet long and varies in girth from eighteen to twenty-four and a half inches, travels at a speed of about forty knots and has a range of three miles (effective).

For practice purposes the war-head is removed and a weighted dummy substituted; even this is a costly weapon and it is sometimes very difficult to recover after firing as it is not easy to spot such a small thing if there is anything of a sea on; search continues for hours and even more so in these days of economy, although probably very much more fuel is expended by the seeking destroyers than would cover the cost of the lost torpedo.

Mines are simply thin metal casings containing heavy charges weighing in all about 650 pounds, which explode on contact with a ship or other object.

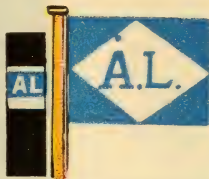
They came into prominence during the Russo-Japanese War of 1904 and several splendid ships were sent to the bottom.

They are of two classes, *Observation and contact*. The former is principally used for defending harbours or ports and is exploded when a ship passes over it, by an observer ashore by means of an electric current.

# FINLAND



1. Finska Angfartygs



2. Finland South America  
Line.

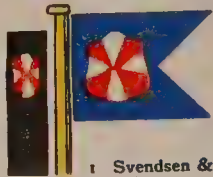








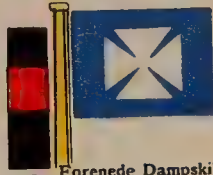
# DENMARK



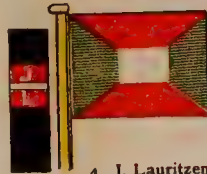
1. Svendsen & Christensen



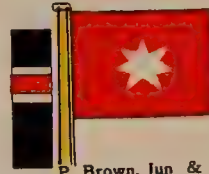
2. A. P. Möller  
(Grey hulls.)



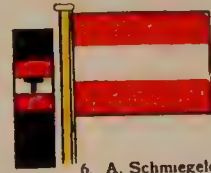
3. Forenede Dampskibs.  
(Some grey hulls.)



4. J. Lauritzen  
(White hulls.)



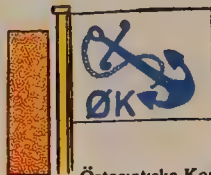
5. P. Brown, Jun & Co.  
(Grey hulls.)



6. A. Schmiegelow.  
(White hulls.)



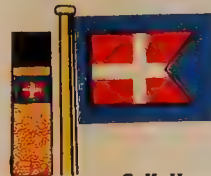
7. Holm & Wonsild.  
(Grey hulls.)



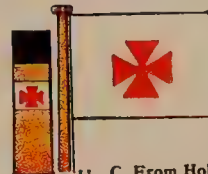
8. Østasiatiske Komp.  
(Ships without funnels grey.)



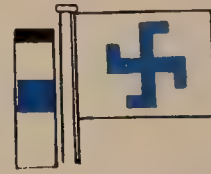
9. A. N. Petersen.  
(Grey hulls.)



10. C. K. Hansen



11. C. From Holm.  
(Tankers.)



12. Islands, Eimskip



## British Naval Weapons

The contact mine is laid in the open sea and exploded immediately upon contact, the actual explosion being caused by the driving in of a "horn" which causes the fulminate of mercury contained in a glass tube to detonate.

Contact mines are usually laid in fields and are anchored by a cable and heavy weight to the sea bed, the mines themselves floating a few feet below the surface ; they are either independent or else linked together so that it is next to impossible to avoid them all.

They are laid by special craft or by destroyers fitted with mine rails and are just dropped over the stern or through a hole cut in the stern.

They are swept up by drifters or vessels especially equipped with heavy sweeping gear, more or less in the same manner as fish are trawled for.

The *Paravane*, invented during the last war, is carried on the bow of a ship and pushes the mines away from the side, brings them to the surface and cuts their mooring ropes and renders the ship carrying it practically immune from danger unless the actual stem comes into contact with a mine.

*Depth charges* were introduced in the last war also and are simply large tins containing explosive charges which are dropped over the stern or thrown by special guns and which are set to explode at a given depth. They are the greatest weapon for use against submarines as their explosive range is big and a submarine ringed by several charges stands very little chance of escape.

## CHAPTER L

# Royal Navy

### Personnel of the Royal Navy (including Royal Marines).

Just under 95,000 in 1935 compared with over 146,000 in 1914. Figures (taken to the nearest thousand) for the following powers may be interesting:—

UNITED STATES	.	.	108,000 in 1935 compared with 67,000 in 1914.
JAPAN	.	.	88,000 in 1935   ,,   ,, 51,000 in 1914.
FRANCE	.	.	63,000 in 1935   ,,   ,, 70,000 in 1914.
ITALY	.	.	55,000 in 1935   ,,   ,, 40,000 in 1914.

### Ships of the Royal Navy.

Figures for the principal naval powers are as under (excluding sloops, minelayers and all auxiliary craft):—

	1914.	1918.	1935.	<i>Position (compared with 1914).</i>
BRITISH EMPIRE	. 467	738	278	40% Decrease
UNITED STATES	. 153	260	352	130% Increase
JAPAN	. 116	140	203	75% Increase
FRANCE	. 202	203	195	3% Decrease
ITALY	. 92	162	181	96% Increase

## Royal Navy

A more detailed list of the various classes of ships is as follows:—

	<i>British Empire.</i>	<i>U.S.A.</i>	<i>Japan.</i>	<i>France.</i>	<i>Italy.</i>
CAPITAL SHIPS .	15	15	9	9	4
CRUISERS .	51	26	36	44	24
DESTROYERS .	161	227	101	46	94
SUBMARINES .	51	84	57	96	59

It must be remembered that whilst most of the British fleet has seen heavy war service, the foreign fleets are for the most part comprised of new and efficient ships; 1 year of war is reckoned as being equal to 2 of peace and some of our destroyers are incapable of keeping the seas. A certain number of ships are building, but they are nearly all replacements in the case of Britain and unless new provision is made our cruiser strength at the end of 1936 will be down to 36.

Germany is allowed up to 35 per cent of British strength, but here again all the construction is modern.

### Distribution of the Fleet.

The Royal Navy is at present distributed as follows:—

*The Home Fleet*, known formerly as the Atlantic Fleet and before that the Channel Fleet.

*The Mediterranean Fleet.*

*The China Squadron, East Indies, American, African and West Indies Stations.*

*The New Zealand Division.*

*The Royal Australian Navy.*

*The Royal Canadian Navy.*

*The Royal Indian Navy*, known until 1935 as the Royal Indian Marine.



## **Ships and the Sea**

### **Colouring.**

Ships of the Home Fleet are painted dark grey and those of the Mediterranean, New Zealand and Australian fleets, light grey.

Cruisers and sloops on China Station have white hulls and grey upperworks and funnels.

Ships in East Indies and Red Sea and on American and West Indies Stations have white hulls with primrose yellow masts, funnels and yards.

Sloops only, on American and West Indies and African Stations are grey all over.

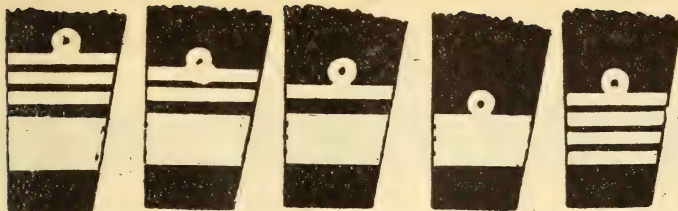
Fishery Protection Vessels, Depôt Ships and many auxiliaries in Home waters have black hulls, light grey upperworks, and funnels varying between white, grey and black, submarines are painted on the "protective colouring" system. Those in Atlantic are grey green, those in the Mediterranean are royal blue and those in the Red Sea are black.

The principal dockyards are at: Portsmouth, Devonport, Chatham and Sheerness at home, and at Gibraltar, Malta, Singapore, Hong Kong, Sydney, Bombay, Ascension, Bermuda, Halifax and Simon's Bay throughout the Empire.

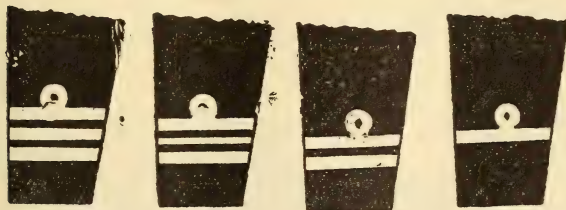
Scapa Flow, Cromarty and Portland are fleet bases.

There are fortified fuelling bases at: Aden, Colombo, Mauritius, Cape Coast Castle, Port Stanley (Falklands), St. Helena, Sierra Leone and King George Sound, and unfortified fuelling depôts at Auckland, Bridgetown, Brisbane, Cyprus, Durban, Hobart, Kingston (Jamaica), Perim, Penang, St. Lucia, Suez, Walvis Bay and Wei-hai-wei.

## Uniforms.



\*Admiral. Vice-Admiral. Rear-Admiral. Commodore† or Commodore (1st Class) (2nd Class) Captain.



Commander. Lieutenant-Commander. Lieutenant. Sub-Lieutenant.

\* Admiral of the Fleet has one stripe more than Admiral, i.e. four in all.  
 † Ring separated from top stripe.

## CHAPTER LI

# Ships of the Royal Navy and Dominion Navies arranged in Classes

(Drawings not all to Scale)

TONNAGE is given in round figures only and in the case of a class of ship the average tonnage is given. Only the principal guns are shown and all ships have in addition a considerable number of smaller weapons.

Ships of the Dominion Navies are included in this list.

### BATTLESHIPS.

#### *Nelson Class.*

##### NELSON.

##### RODNEY.

33,500 tons and 33,900 tons; 702 feet long overall; 46,000 S.H.P., 23 knots; built in 1927; 9 16-inch, 12 6-inch, 6 4.7-inch A.A., 2 torpedo tubes. *Nelson* carries one plane. Known in fleet as "Queen Anne's Mansions" because the great bridge structure bears some resemblance to the well-known block of flats in London; also spoken of as "The Cherry Tree Class" because they were cut down by Washington (Treaty), being originally designed as larger ships. Complement: 1,361.

#### *Royal Sovereign Class.*

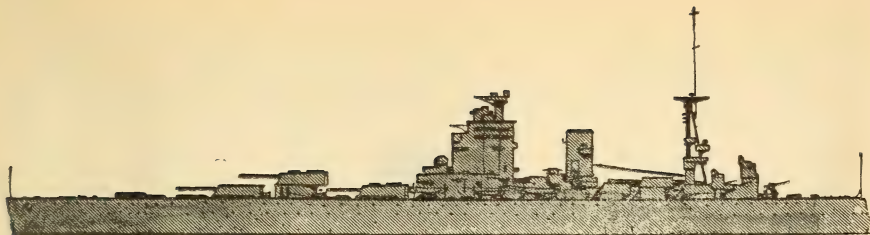
##### RAMILLIES. RESOLUTION. REVENGE. ROYAL OAK. ROYAL SOVEREIGN.

29,150 tons; 615/620 feet long overall; built 1916/1917; 8 15-inch, 12 6-inch, 4 4-inch A.A., 2 torpedo tubes. *Royal Sovereign* and *Ramillies* carry plane which is catapulted off "X" turret. *Ramillies* has a tripod mainmast and larger bridges, *Resolution* has a large clinker-screen on funnel. 42,000 S.H.P., 22 knots. Complement: 1,000/1,150.

#### *Queen Elizabeth Class.*

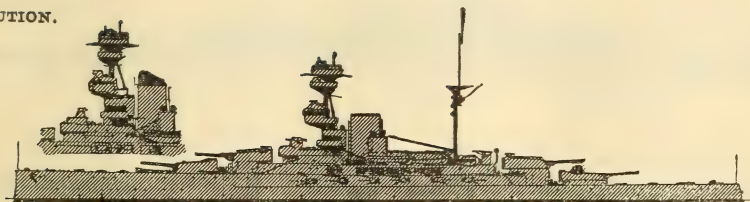
##### BARHAM. MALAYA. QUEEN ELIZABETH. VALIANT. WARSPITE.

31,100 tons; 640 feet long overall; built 1915/1916; 8 15-inch, 12 6-inch, 4 4-inch A.A., 2 torpedo tubes; 77,000 S.H.P., 25 knots. *Barham* and *Valiant* carry a plane

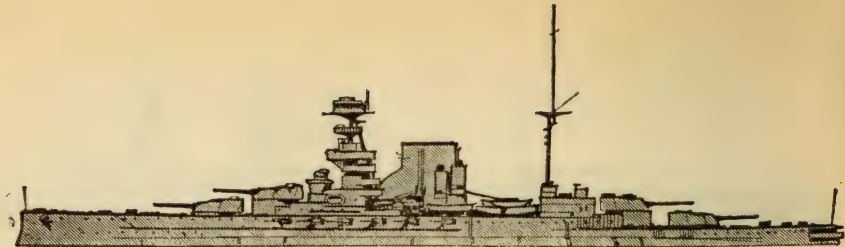


NELSON AND RODNEY.

RESOLUTION.



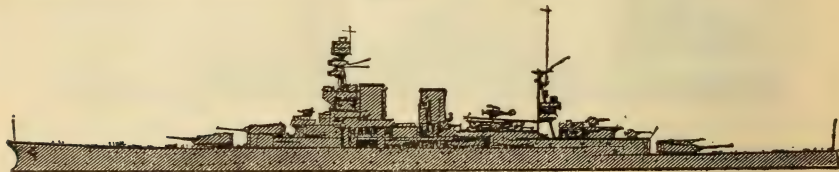
ROYAL SOVEREIGN *Class* (RAMILLIES has tripod mast)



QUEEN ELIZABETH *Class* (BARHAM has tripod mast)



HOOD.



RENOWN, REPULSE.

## Royal Navy

which is catapulted off "X" turret. *Barham* has tripod to mainmast. All originally had two well-proportioned funnels but forward one was trunked into the after one and bridges were built up. Complement: 1,120/1,190.

### BATTLE CRUISERS.

#### Hood.

42,100 tons; 861 feet long overall; 144,000 S.H.P., 31 knots; built in 1920; 8 15-inch, 12 5·5-inch, 4 4-inch A.A., 6 torpedo tubes. Largest warship in the world and unequalled in appearance. Complement: 1,340.

#### Renown.

#### Repulse.

32,000 tons; 794 feet long overall; 112,000 S.H.P., 28 knots; built in 1916; 6 15-inch, 12 4-inch, 4 4-inch A.A., 2 torpedo tubes in *Renown* and 10 in *Repulse*. Complement: 1,180/1,200.

### CRUISERS.

#### *Southampton Class* (Building)

BIRMINGHAM.

NEWCASTLE.

GLASGOW.

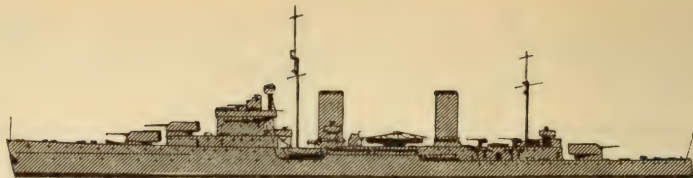
SHEFFIELD.

LIVERPOOL.

SOUTHAMPTON.

MANCHESTER.

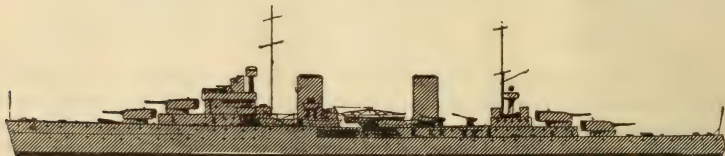
9,000 tons; 584 feet long; 96,000 S.H.P., 32 knots; 12 6-inch, 8 4-inch A.A., 8 torpedo tubes (quadrupled, on deck); 2 aircraft and 1 catapult. Improved *Amphions*, which they resemble in appearance, but they have 3 guns in each turret. *Southampton* was originally named *Polyphemus* and *Newcastle* was originally named *Minotaur*. Complement: 700.



ARETHUSA.



LEANDER *Class.*



AMPHION *Class.*





Société d'Armement, S.A.  
(Cargo vessels.)



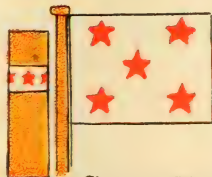
7. Africaine d'Armement,  
Cie.



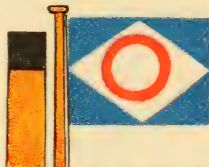
8. Auxiliaire de Nav., Cie.  
(Tankers.)



14. Cyp. Fabre









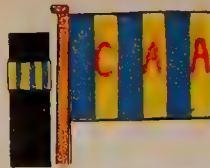


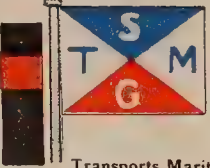




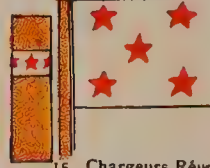

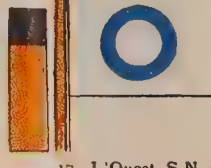


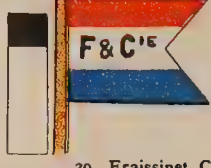
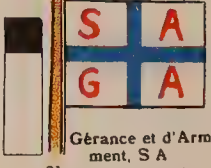
15. Chargeurs Réunis,  
Cie. F. de Nav.



16. Sud-Atlantique, Cie.  
de N.



# FRANCE

 <p>1. Paquet, Cie de N.</p>	 <p>2. Messageries Maritimes, Cie des</p>	 <p>3. France-Amerique, Cie. de N.</p>	 <p>4. Delmas Frères, Comp.</p>	 <p>5. L'Afrique Occid. Française, Cie. des T. M. (Grey hulls.)</p>	 <p>6. Gérance et d'Armement, S.A. (Cargo vessels.)</p>	 <p>7. Africaine d'Armement, Cie.</p>	 <p>8. Auxiliaire de Nav., Cie. (Tankers.)</p>
 <p>9. Mixte, Cie. de Nav.</p>	 <p>10. Transports Marit. à Vap., S.G. de</p>	 <p>11. Havraise Pénin. de N. à Vap., Nouvelle Cie.</p>	 <p>12. Transatlantique, Cie. Générale</p>	 <p>13. Schiaffino et Cie. Chas</p>	 <p>14. Cyp. Fabre</p>	 <p>15. Chargeurs Réunis, Cie. F. de Nav.</p>	 <p>16. Sud-Atlantique, Cie. de N.</p>
 <p>17. L'Ouest, S.N. de</p>	 <p>18. Messageries Maritimes, Cie. des ("Aramis.")</p>	 <p>19. État Française, Ch. de fer.</p>	 <p>20. Fraissinet, Cie.</p>	 <p>21. Gérance et d'Armement, S.A. (Passenger ships.)</p>			



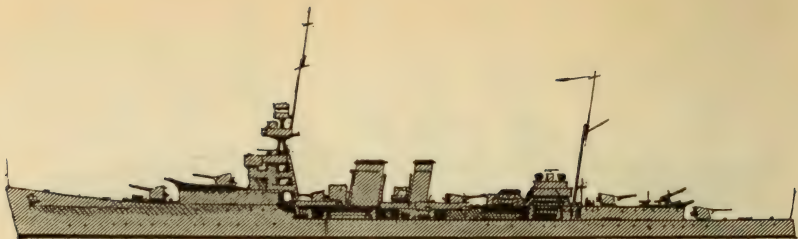
### COUNTY *Classes*

All ships not alike and in some, quarter-deck is being dropped one deck lower and large hangars are being put in between third funnel and mainmast.

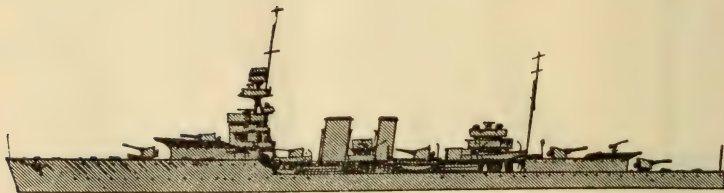


ENTERPRISE (Note forward turret).

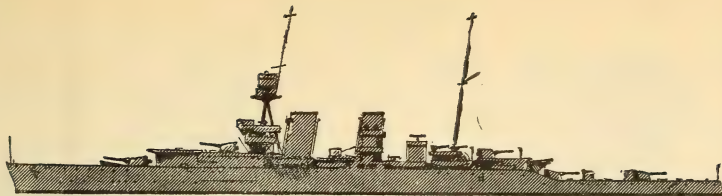
EMERALD similar but without forward turret.



DELHI, DESPATCH, DURBAN.



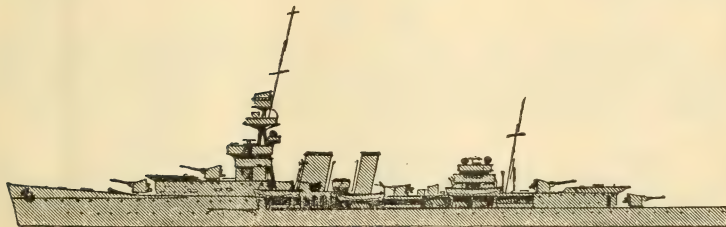
DANAE, DAUNTLESS, DRAGON.  
(Similar to above but without trawler bow.)



HAWKINS, EFFINGHAM.

FROBISHER similar

VINDICTIVE ,, but with hangar forward of bridge.



CAPETOWN, CAIRO, CALCUTTA, CARLISLE, COLOMBO.  
(Trawler bow.)



## Ships and the Sea

### *County Class.*

AUSTRALIA (R.A. Navy).

BERWICK.

CANBERRA (R.A. Navy).

CORNWALL.

CUMBERLAND.

DEVONSHIRE.

DORSETSHIRE.

KENT.

LONDON.

NORFOLK.

SHROPSHIRE.

SUFFOLK

SUSSEX.

9,800 tons; 633 feet long overall; 80,000 S.H.P., 32.25 knots; built between 1927 and 1929; 8 8-inch, 4 4-inch A.A., 8 torpedo tubes (quadrupled, on deck). First cruisers built under Washington "Treaty" conditions. Each carries 1 plane and catapult and the ships vary considerably in appearance, some having bridge and foremast much closer to first funnel; as originally built they had much shorter funnels. Complement: 650.

### *"E" Class.*

EMERALD.

ENTERPRISE.

7,600 tons; 570 feet long overall; 80,000 S.H.P., 33 knots; built in 1926; 7 6-inch, 3 4-inch A.A., 16 torpedo tubes (quadrupled, on deck). Each carries one aircraft and catapult. Number 2 gun in *Enterprise* is in turret. Complement: 570.

### *"D" Class.*

DANAE.

DAUNTLESS.

DELHI.

DESPATCH.

DIOMEDE.

DRAGON.

DUNEDIN.

DURBAN.

4,900 tons; 473 feet long overall; 40,000 S.H.P., 29 knots; built in 1918/1922; 6 6-inch, 3 4-inch A.A., 12 torpedo tubes (tripled, on deck). *Diomedé* and *Dunedin*



CERES, CARDIFF, COVENTRY, CURAÇOA, CURLEW.



CALEDON.  
(also CALYPSO, CARADOC without flight platform.)

## Ships and the Sea

belong to New Zealand Division and former has Number 1 gun in turret. Complement: 450.

### *Improved Birmingham Class.*

EFFINGHAM.  
FROBISHER.

HAWKINS.  
VINDICTIVE.

9,800 tons; 605 feet long overall; 65,000 S.H.P., 30 knots; 7 7·5-inch, 3 4-inch A.A., 6 torpedo tubes. Magnificent ships due to be scrapped this year. Built 1924 and 1925 except *Hawkins*, 1919. *Vindictive* has Number 2 gun removed to form hanger in front of bridge. Complement: 750. To have 7·5-inch guns removed and 6-inch put in their place.

### *Carlisle Class.*

CAIRO.  
CALCUTTA.  
CAPETOWN.

CARLISLE.  
COLOMBO.

### *Ceres Class.*

CARDIFF.  
CERES.  
COVENTRY.

CURACOA.  
CURLEW.

4,300 tons; 450 feet long overall; 40,000 S.H.P., 29 knots; 5 6-inch, 2 3-inch A.A., 8 torpedo tubes (quadrupled, on deck). Last five do not have trawler bows. Built between 1917 and 1919 except *Capetown*, 1922. Complement: 440.





# GERMANY

							
1. Argo. A.G.	2. Aug. Bolten	3. Leonhardt & Blumberg	4. Hamburg-London Linie	5. A. Kirsten	6. Arnold Bernstein	7. Deutsche Levante Linie	8. Aug. Cords
							
9. H.C. Horn	10. "Neptun" D.G.	11. R.M. Sloman Jr.	12. J.T. Essberger (Tankers.)	13. "Red Star" Linie	14. Ernst Russ	15. Unterweser Reederei	16. Rickmers Linie. (Green hulls.)
							
17. Waried Tankschiff Rhed. (Tankers.)	18. Baltisch-Amerikanische Petrol. Ges. (Tankers.)	19. "Hansa" Linie	20. Hugo Stinnes Rederei. (Engines aft.)	21. Hamburg Bremer Afrika Linie	22. J.M.K. Blumenthal	23. Woermann Linie. (Grey hulls)	24. W. Kunstmann
							
25. Norddeutscher Lloyd	26. H. Schmidt	27. Oldenburg-Portugiesische Dampf.	28. Siemens & Co.	29. Norddeutscher Lloyd. (Some Cargo vessels.)	30. Hamburg-Amerika Linie	31. Deutsche Ost-Afrika Linie. (Grey hulls.)	32. "Midgard" Deutsche Seeverkehrs.
							
33. Hamburg Sud-Amerika Linie							

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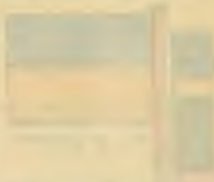
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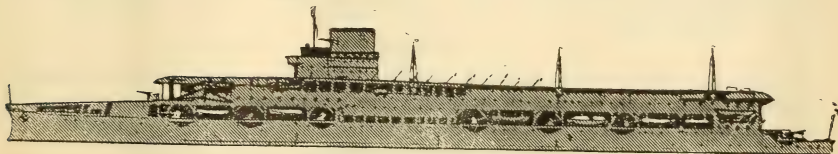




ARGUS.



FURIOUS.



COURAGEOUS and GLORIOUS.

## Ships and the Sea

### *Early "C" Class.*

CALEDON.

CARADOC.

CALYPSO.

4,200 tons; 450 feet long overall; 40,000 S.H.P., 29 knots; built 1917, 5 6-inch, 2 3-inch A.A. Complement: 440.

### *Adelaide Class (R.A. Navy).*

ADELAIDE.

5,100 tons; 462 feet long overall; 25,000 S.H.P., 25.5 knots; built 1922; 9 6-inch, 1 3-inch A.A., 2 torpedo tubes.

### AIRCRAFT CARRIERS.

COURAGEOUS.

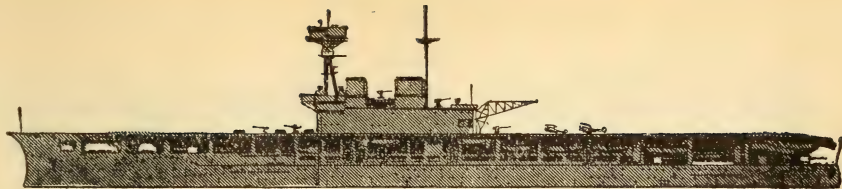
GLORIOUS.

22,500 tons; 786 feet long overall; 90,000 S.H.P., 30 knots; built in 1917 and converted from light cruisers of shallow draught. Carry about 40 planes each and superstructure and funnels are right over on starboard side. Complement: 750 (1,200 with R.A.F.).

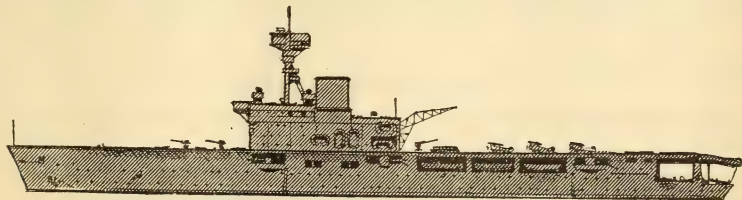
ARGUS.

14,450 tons; 565 feet long overall; 20,000 S.H.P., 20 knots; 6 4-inch A.A., 20 planes. Originally being built as Italian liner but was purchased by British Government and completed in 1918. Complement 370.

ARK ROYAL (Building).



EAGLE.



HERMES.

637

## **Ships and the Sea**

### **EAGLE.**

22,600 tons; 667 feet long overall; 50,000 S.H.P., 24 knots; built in 1923; 9 6-inch, 5 4-inch. Laid down as Chilean battleship but purchased by British Government and completed as carrier; superstructure and funnels right over on starboard side. Complement: 750.

### **FURIOUS.**

22,450 tons; 786 feet long overall; 90,000 S.H.P., 31 knots; built in 1925; 10 5·5-inch, 6 4-inch A.A. Carries about 30 planes. Originally designed as light cruiser of shallow draught but converted to carrier and at one time had large funnel. Complement: 750 (1,200 with R.A.F.).

### **HERMES.**

10,850 tons; 598 feet long overall; built 1923; 6 5·5-inch, 3 4-inch A.A.; can carry 20 planes; 40,000 S.H.P., 25 knots. First ship actually designed as a carrier; superstructure and funnel right over on starboard side. Complement: 660.

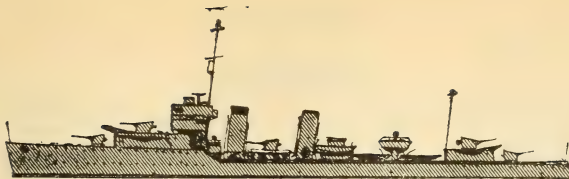
### **SEAPLANE CARRIERS.**

#### **ALBATROSS (R.A. Navy).**

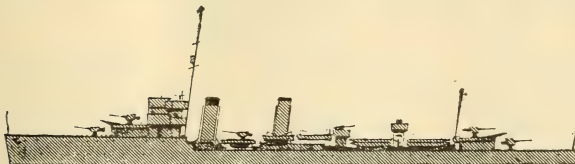
4,800 tons; 443 feet long overall; 21 knots; built 1928; 4 4·7-inch; carries 9 seaplanes.

### **PEGASUS.**

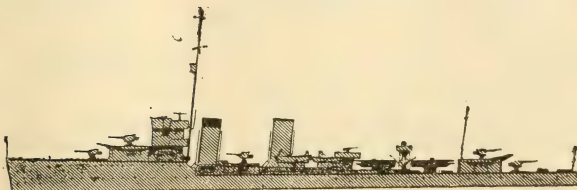
Now employed in experimental work.



CODRINGTON *Class.*



BRUCE *Class.*



BROKE *Class.*

## Ships and the Sea

### FLOTILLA LEADERS.

#### *Post War Types.*

CODRINGTON.  
DUNCAN.  
KEITH.  
KEMPENFELT.

EXMOUTH.  
FAULKNOR.  
GRENVILLE.  
HARDY.

All about 1,400/1,500 tons; 322/342 feet long overall; 4 or 5 4·7-inch guns, 8 torpedo tubes (quadrupled, on deck). All very similar in appearance. 34/39,000 S.H.P., 34/36 knots. Built 1928/1935. Complement: 175.

#### *Scott Class*

BRUCE.  
CAMPBELL.  
DOUGLAS.  
MACKAY.

MALCOLM.  
MONTROSE.  
STUART. (R.A.N.)

1,500 tons; 332 feet long overall; 5 4·7-inch, 1 3-inch A.A., 6 torpedo tubes (tripled, on deck); 40,000 S.H.P., 36·5 knots. Complement: 180.

#### *Shakespeare Class.*

BROKE.  
KEPPEL.  
SHAKESPEARE.

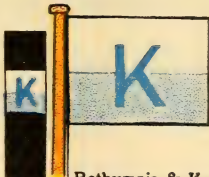
SPENSER.  
WALLACE.

1,500 tons; 329 feet long overall; 40,000 S.H.P., 36 knots; 5 4·7-inch, 1 3-inch A.A., 6 torpedo tubes (tripled, on deck); built 1919/1925. Complement: 180.

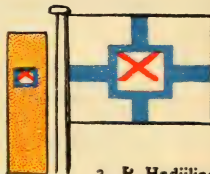
# GREECE



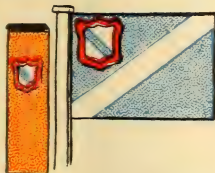
1. S. G. Embiricos



2. Rethymnis & Kulkundis Ltd.



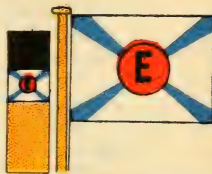
3. P. Hadjilias



4. E. E. Hadjilias



5. National S.N. Co. Ltd.



6. M. A. Embiricos





## Royal Navy

### DESTROYERS.

"A," "B," "C," "D," "E," "F," "G," "H," "I" Classes of destroyers, all have same general outline and armament but varying considerably in bridgework, size of funnels and so on.

1,350 tons; 323 feet long overall; 34,000 S.H.P., 35·5 knots; 4 4·7-inch, 8 torpedo tubes. Complement: 145.

#### *"I" Class (Building).*

ICARUS.

ILEX.

IMOGEN.

IMPERIAL.

IMPULSIVE.

INGLEFIELD.

INTREPID.

ISIS.

IVANHOE.

#### *Hero Class (completed 1935/36).*

HASTY.

HAVOCK.

HEREWARD.

HERO.

HOSTILE.

HOTSPUR.

HUNTER.

HYPERION.

#### *Greyhound Class (completed 1935/36).*

GALLANT.

GARLAND.

GIPSY.

GRENADE.

GREYHOUND.

GRIFFIN.

GLOWWORM.

GRAFTON.

#### *Fearless Class (completed 1934/35).*

FAME.

FEARLESS.

FIRE Drake.

FORESIGHT.

FORESTER.

FORTUNE.

FOXHOUND.

FURY.

## **Ships and the Sea**

### *Eclipse Class (completed 1934).*

ECHO.	ESCAPADE.
ECLIPSE.	ESCORT.
ELECTRA.	ESK.
ENCOUNTER.	EXPRESS.

### *Defender Class (completed 1932/33).*

DAINTY.	DELIGHT.
DARING.	DIAMOND.
DECOY.	DIANA.
DEFENDER.	DUCHESS.

### *Canadian Class (R.C.N.).*

SAGUENAY.	SKEENA.
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### *Crusader Class (completed 1932).*

COMET.	CRUSADER.
CRESCENT.	CYGNET.

### *"A" Class.*

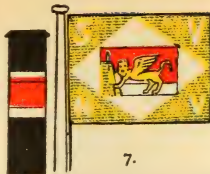
AMAZON.	AMBUSCADE.
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### *Beagle Class (completed 1931).*

BASILISK.	BOREAS.
BEAGLE.	BRAZEN.
BLANCHE.	BRILLIANT.
BOADICEA.	BULLDOG.



6. Gerolomich & Co.



7.  
Veneziana, S. di Nav.  
a Vap.



8.  
D. & Ci. Tripovich,  
S.A. di Nav.



14.  
Lloyd Triestino.  
(White hulls.)



15.  
Libera Triestina,  
Nav.




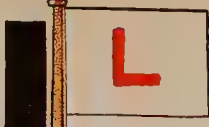






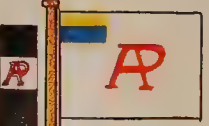









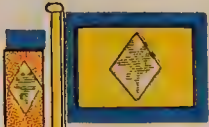



16.  
Adriatica Comp. di  
Nav.  
(Mostly white hulls.)



22. " Italia "

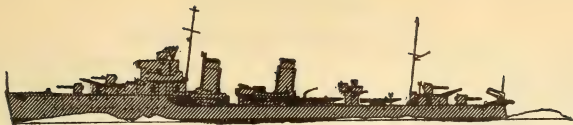


# ITALY

 <p>1. "Adria", S.A. di Nav. Marit.</p>	 <p>2. "Lussino", S. di Nav. a Vap. (Grey hulls.)</p>	 <p>3. Lloyd Triestino</p>	 <p>4. "Garibaldi" S A Co-op. di Nav.</p>	 <p>5. Nova Genuensis" S.A</p>	 <p>6. Gerolomich &amp; Co.</p>	 <p>7. Veneziana, S. di Nav. a Vap.</p>	 <p>8. D. &amp; Ci. Tripovich, S.A. di Nav.</p>
 <p>9. E. V. Parodi, S.A.</p>	 <p>10 "Corrado", S.A. di Nav.</p>	 <p>11 Lloyd Mediterraneo, S. Ital. di Nav.</p>	 <p>12. Alta Italia, Nav.</p>	 <p>13. "Transatlantica Italiana", S. di Nav.</p>	 <p>14. Lloyd Triestino. (White hulls.)</p>	 <p>15. Libera Triestina, Nav.</p>	 <p>16. Adriatica Comp. di Nav. (Mostly white hulls.)</p>
 <p>17. "La Columbia" S. Marit. (Tankers.)</p>	 <p>18. Ligure, S. di Arma.</p>	 <p>19. Italo-Somala, S.A. di Nav.</p>	 <p>20. "Istria-Trieste", S. di Nav. a Vap. (Grey hulls)</p>	 <p>21. "Tirrenia"</p>	 <p>22. "Italia"</p>		



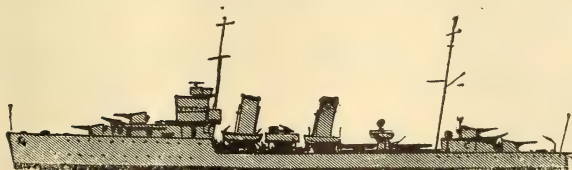




"E" and "F" Classes.  
(Except ESK and EXPRESS.)



"C" and "D" Class. (Note bridge.)



"A" and "B" Class.

## Ships and the Sea

### *Acasta Class (completed 1929).*

ACASTA.	ANTELOPE.
ACHATES.	ANTHONY.
ACHERON.	ARDENT.
ACTIVE.	ARROW.

### *Admiralty Modified "W" Class.*

xVANSITTART.	WHITSHED.
xVENOMOUS.	WILD SWAN.
xVERITY.	WITHERINGTON.
VETERAN.	WIVERN.
xVOLUNTEER.	WOLVERINE.
xWANDERER.	WORCESTER.
xWHITEHALL.	xWREN.

1,100 tons average; 312 feet long overall; 27,000 S.H.P., 34 knots; 4 4·7-inch, 6 torpedo tubes (tripled, on deck). Built between 1919 and 1924. Complement: 135.

Those marked *x* have *tall thin fore* funnel and *short fat aft* one, those not marked have *tall thick fore* funnel and *short thin aft* one.

### *Admiralty "V" Class.*

VALENTINE.	VANOC.
VALKYRIE.	VANQUISHER.
VALOROUS.	VECTIS.
VAMPIRE (R.A. Navy).	VELOX.
VANESSA.	VENDETTA.
VANITY.	VEGA.

## Royal Navy

### *Admiralty "V" Class—contd.*

VENETIA.  
VENTUROUS.  
VERDUN.  
VERSATILE.  
VESPER.  
VIDETTE.

VIMIERA.  
VIMY.  
VIOLENT.  
VIVACIOUS.  
VIVIEN.  
VORTIGERN.

1,100 tons; 312 feet long overall; 27,000 S.H.P., 34 knots; 4 4-inch, 6 torpedo tubes, except *Velox*, *Versatile*, *Vimy* and *Vortigern*, which have 5. Built 1918. Appearance similar to those of modified "W" class marked **x**.

### *Admiralty "W" Class.*

VOYAGER.  
WAKEFUL.  
WALKER.  
WALPOLE.  
WALRUS.  
WARWICK.  
WATCHMAN.  
WATERHEN (R.A. Navy).  
WESSEX.  
WESTCOTT.

WESTMINSTER.  
WHIRLWIND.  
WHITLEY.  
WINCHELSEA.  
WINCHESTER.  
WINDSOR.  
WOLFHOUND.  
WRESTLER.  
WRYNECK.

1,100 tons; 312 feet long overall; 27,000 S.H.P., 34 knots; 4 4-inch, 6 torpedo tubes (tripled, on deck). Built 1918. Very similar in appearance to above classes but have taller mainmast.

## Ships and the Sea

### *Thornycroft Modified " W " Class.*

WISHART.

WITCH.

1,100 tons; 312 feet long; 30,000 S.H.P., 35 knots; 4 4·7-inch, 6 torpedo tubes (tripled, on deck). Built 1920 and 1924. Almost equal height funnels and *foremast* is large flat-sided.

### *Thornycroft " W " Class.*

WOLSEY.

WOOLSTON.

Same as above but built in 1918 and large flat-sided *after* funnel.

### *Admiralty " S " Class.*

SABRE.

STURDY.

SALADIN.

TENEDOS.

SARDONYX.

THANET.

SCIMITAR.

THRACIAN.

SCOTSMAN.

TROJAN.

SCOUT.

TRUSTY.

SEARCHER.

TURBULENT.

SHAMROCK.

STALWART.

SHIKARI.

SUCCESS.

SPINDRIFT.

SWORDSMAN.

SPORTIVE.

TASMANIA.

STRONGHOLD.

TATTOO.

} R.A.N.

900 tons; 276 feet long overall; 27,000 S.H.P., 36 knots; 3 4-inch, 4 torpedo tubes Built in 1918, except *Shikari*, 1924, and *Thracian*, 1922. Complement: 100.

## Royal Navy

### *Thornycroft "S" R.C. Navy.*

CHAMPLAIN.

VANCOUVER.

1,100 tons; 276 feet long overall; 29,000 S.H.P., 36 knots; 3 4-inch, 4 torpedo tubes. Built in 1919.

### *Thornycroft "V"*

VICEROY.

VISCOUNT.

Same as other "V" class but in appearance can be distinguished by short mainmast.

### *Admiralty "R" Class.*

RESTLESS.

TEMPEST.

ROWENA.

THRUSTER.

SABLE.

TORRID.

SKATE.

900 tons; 276 feet long overall; 27,000 S.H.P., 36 knots; 3 4-inch, 4 torpedo tubes. Built in 1917 and to be disposed of this year. Complement: 100.

SUBMARINES. (First speed is SURFACE and second SUBMERGED).

### *Porpoise Class (Minelayers).*

GRAMPUS.

PORPOISE.

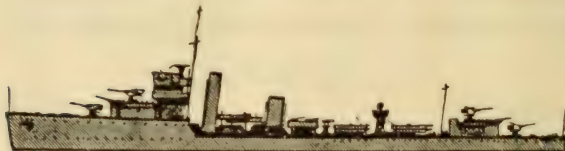
NARWHAL.

RORQUAL.

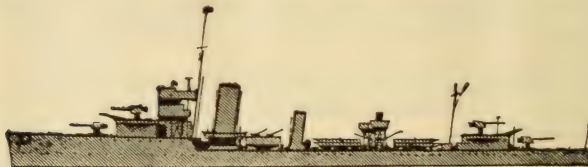
1,500/2,100 tons; 270 feet long; 3,300/1,600 H.P., 15/8.75 knots; 1 4-inch, 8 torpedo tubes. Built between 1933 and 1936. Complement: 55.



VICEROY, VISCOUNT. WOLSEY, WOOLSTON.



"V" and "W" Classes (46).



VETERAN, WILD SWAN, WIVERN, WHITSHED,  
WITHERINGTON, WOLVERINE, WORCESTER.

## Royal Navy

### *Thames Class.*

CLYDE.  
SEVERN.

THAMES.

1,800/2,700 tons, 325 feet long, 1 4-inch, 6 torpedo tubes; 22·5/10 knots. Built between 1932 and 1935. *Thames* was first submarine to exceed 21 knots. Complement: 60.

### *Rainbow Class.*

RAINBOW.  
REGENT.

REGULUS.  
ROVER.

1,500/2,000 tons; 260 feet long; 4,400/1,300 H.P., 17·5/9 knots; 1 4-inch, 8 torpedo tubes. Built between 1930 and 1932. Complement: 50.

### *Parthian Class.*

PANDORA.  
PARTHIAN.  
PERSEUS.

PHOENIX.  
PROTEUS.

Resemble "O" Class but have a higher speed.

### *Odin Class.*

ODIN.  
OLYMPUS.  
ORPHEUS.

OSIRIS.  
OSWALD.  
OTUS.



## **Ships and the Sea**

### *Oberon Class.*

OBERON.

OXLEY.

OTWAY.

1,400/2,000 tons; 280 feet long overall; 3,000 to 4,000/1,350 H.P.; 1 4-inch, 8 torpedo tubes. Vary in appearance about conning towers and *Oberon* has a "Bull" nose. Complement: 54.

### *"X" Class.*

X 1.

2,400/3,600 tons; 350 feet long; 6,000/2,600 H.P., 19.5/9 knots; 4 5.2-inch, 6 torpedo tubes; built 1925. Complement: 110.

### *Swordfish Class.*

SEAHORSE.

STURGEON.

STARFISH.

SWORDFISH.

640/900 tons; 200 feet long; 1 3-inch, 6 torpedo tubes; 13/10 knots. Complement: 40.

### *Shark Class.*

SALMON.

SNAPPER.

SEALION.

SPEARFISH.

SEAWOLF.

SUNFISH.

SHARK.

Same as above; built between 1932/35.

### *"H" Class.*

H.28.

H.33.

H.44.

H.31.

H.34.

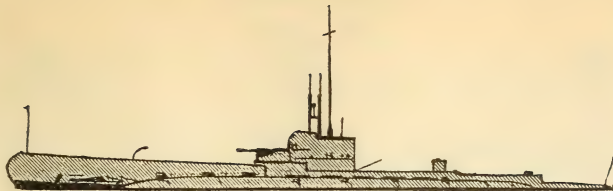
H.49.

H.32.

H.43.

H.50.

400/500 tons; 170 feet long; 4 torpedo tubes; 13/10 knots; built 1918. Complement : 22.



RAINBOW *Class.*



OXLEY, OTWAY. ODIN *Class.*  
(Note bow.)



X 1.

## Ships and the Sea

### *" L " Class.*

L.18.	L.26.	L.56.
L.19.	L.27.	L.69.
L.21.	L.53.	L.71.
L.23.	L.54.	

800/1,500 tons; 235 feet long overall; 1 4-inch, 6 or 4 torpedo tubes; 17·5/10·5 knots; built 1918/1924. Complement: 40.

### CRUISER MINELAYER.

#### ADVENTURE.

7,300 tons; 520 feet long overall; 40,000 S.H.P., 27·75 knots; built 1927; 4 4·7-inch A.A., 340 mines carried and lowered through holes in stern. Diesel-electric for cruising purposes and thin funnel is for Diesel. Complement: 400.

### NET LAYING AND TARGET TOWING SHIPS.

#### GUARDIAN.

#### PROTECTOR (Building).

2,900 tons; 310 feet long; 6,500 H.P., 18 knots; 2 4-inch A.A. Built in 1932; designed for net-laying and photographic work.

### MINESWEEPERS.

#### *Twin Screw Class.*

ABERDARE.	ELGIN.	SALTASH.
ABINGDON.	FAREHAM.	SALTBURN.
ALBURY.	FERMOY.	SELKIRK.
ALRESFORD.	FORRES.	STOKE.
BAGSHOT.	HUNTLEY.	SUTTON.
DERBY.	LYDD.	TEDWORTH.
DUNDALK.	PANGBOURNE.	TIVERTON.
DUNOON.	ROSS.	WIDNES.

## Royal Navy

### *Halcyon Class.*

HALCYON.  
HUSSAR.  
HARRIER.

NIGER.  
SALAMANDER.

SKIPJACK.  
SPEEDWELL.

### SLOOPS.

### *Grimsby Class.*

GRIMSBY.  
LEITH.

LOWESTOFT.  
WELLINGTON.

1,000 tons; 2 4·7-inch, 1 3-inch A.A. Built 1933/1935. Complement: 100.

### *Grimsby Class (Building).*

LONDONDERRY.  
ABERDEEN.

FLEETWOOD.  
DEPTFORD.

### *Shoreham Class.*

BIDEFORD.  
DUNDEE.  
FALMOUTH.  
FOWEY.

MILFORD.  
ROCHESTER.  
SHOREHAM.  
WESTON.

### *Hastings Class.*

FOLKESTONE.  
HASTINGS.

PENZANCE.  
SCARBOROUGH.

1,100 tons; 2 4-inch A.A.; 16 knots. Built 1928/32.

### *Bridgewater Class.*

BRIDGEWATER.

SANDWICH.

## Ships and the Sea

### *Anchusa Class.*

BRYONY.

HAREBELL.

CHRYSANTHEMUM.

### *Arabis Class.*

GODETIA.

ROSEMARY.

LUPIN.

### *Acacia Class.*

FOXGLOVE.

### COASTAL CONVOY SLOOPS.

KINGFISHER.

PUFFIN.

KITTIWAKE.

SHELDRAKE.

MALLARD.

600 tons; 1 4-inch; 20 knots. Built 1935 and 1936. Complement: 60.

### RIVER GUNBOATS.

APHIS.

CRICKET.

MOTH.

BEE.

GNAT.

SCARAB.

CICALA.

LADYBIRD.

TARANTULA.

COCKCHAFER.

MANTIS.

ROBIN.

### SMALL RIVER GUNBOATS.

FALCON.

PETREL.

SEAMEW.

GANNET.

SANDPIPER.

TERN.

### MONITORS.

EREBUS.

MEDUSA.

MINERVA.

MARSHAL SOULT.

MELPOMENE.

TERROR.

## Royal Navy

### PATROL BOATS.

DART.

P.40.

P.C.74.

SPEY.

P.59.

### DEPÔT SHIPS.

ALECTO.

MEDWAY.

CYCLOPS.

PENGUIN (R.A. Navy).

GREENWICH.

SANDHURST.

LUCIA.

TITANIA.

### REPAIR SHIPS.

ASSISTANCE.

WOOLWICH.

RESOURCE.

### HOSPITAL SHIP.

MAINE.

### SURVEYING SHIPS.

BEAUFORT.

HERALD.

CHALLENGER.

IROQUOIS.

ENDEAVOUR.

KELLETT.

FITZROY.

MORESBY (R.A. Navy).

FLINDERS.

ORMONDE.

### YACHTS.

ENCHANTRESS (Admiralty Yacht and also used as sloop).

VICTORIA AND ALBERT (Royal Yacht).

### TARGET VESSEL.

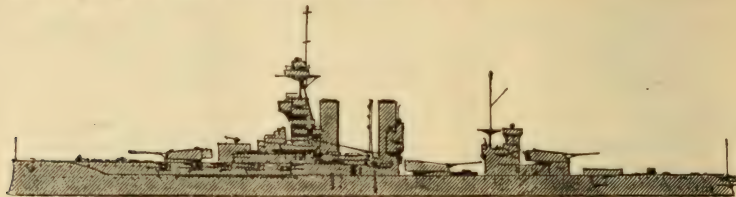
CENTURION (Old Battleship; wireless controlled).

## Ships and the Sea

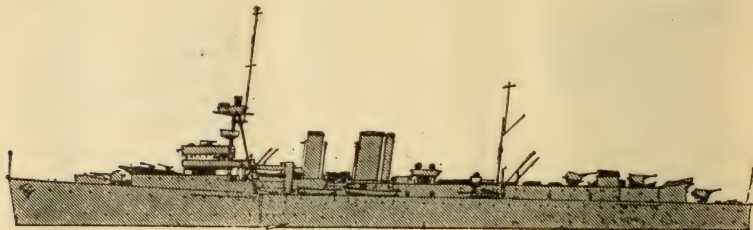
TRAINING SHIP (Gunnery).

IRON DUKE (Former flagship of the Grand Fleet).

Demilitarised under London Treaty but formerly carried 10 13.5-inch, 12 6-inch and was flagship of Lord Jellicoe at Jutland, 1916.



IRON DUKE.



ADVENTURE.



# Uniforms.

FRANCE

*Insignia of rank on Sleeves*



V.A.  
Chief  
of Staff.  
Corresponding



V.A. in  
Command  
of Forces.  
to British



Vice-  
Amiral.

*Vice-Ad.*



Contre-  
Amiral.

*Rear-Ad.*



Capitaine  
de  
vaisseau.  
*Captain.*



Capitaine  
de  
frégate.

} *Comm'der.*



Capitaine  
de  
corvette.

*Lieut.  
Comm'der.*



Lieutenant  
de  
vaisseau.

*Lieut.*



Enseigne.

*Lieut.  
(junior.)*



Enseigne  
2<sup>e</sup> classe.

*Sub-Lieut.*

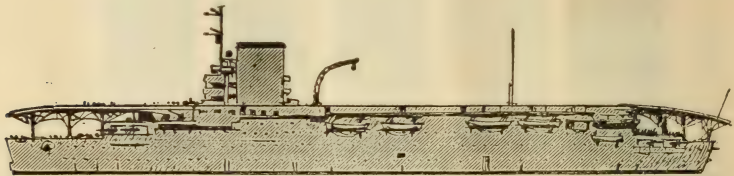
Corresponding  
to British

## CHAPTER LII

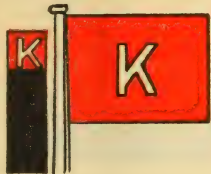
# Representative Ships of Foreign Navies

### FRANCE

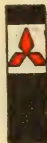
**Béarn.** Aircraft Carrier. 22,100 tons; 600 feet long overall; 37,000 S.H.P. 21·5½ knots; built in 1927; 8 6·1-inch, 6 3-inch A.A. About 40 aircraft. Laid down in 1914 as battleship.



BÉARN (funnel on starboard side).



1. Kawasaki Kisen K.K.



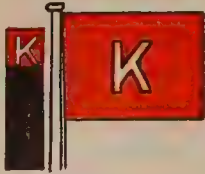
6. Kokusai Kisen K.K.



7. K.



# JAPAN



1. Kawasaki Kisen K.K.



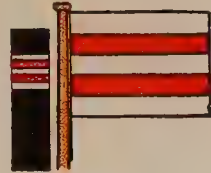
2.  
Mitsubishi Shoji  
Kaisha Ltd.



3. Osaka Shosen K.K.



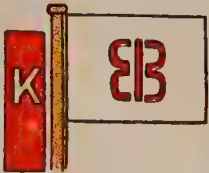
4. Mitsui Bussan K. Ltd.



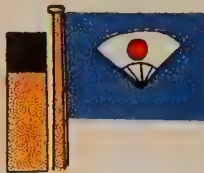
5. Nippon Yusen K.K.



6. Kokusai Kisen K.K.



7. Kawasaki Kisen K.K.



8. Toyo Kisen K.K.

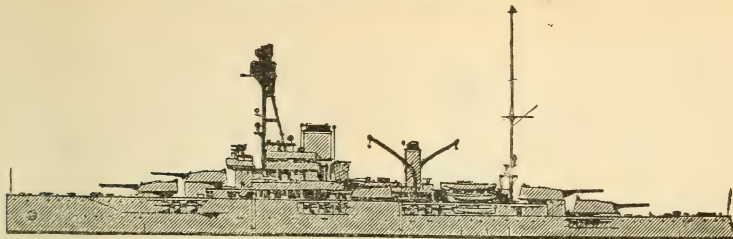


9.  
Govt. of Japan ; com-  
munications.  
(Flag worn as ensign.)

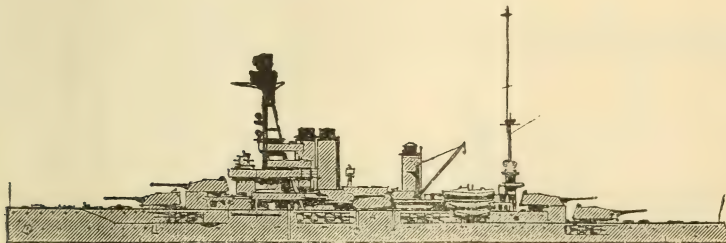
# WATAI

## Representative Ships of the French Navy



COURBET. JEAN BART.

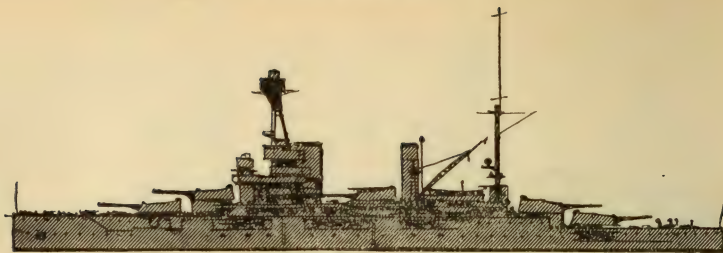


PARIS.

Courbet, Jean Bart, Paris. Battleships. 28,000 S.H.P., 20 knots; built in 1913 and 1914; 12 12-inch, 22 5.5-inch, 7 3-inch A.A., 4 torpedo tubes.



## Ships and the Sea



LORRAINE. BRETAGNE. PROVENCE.

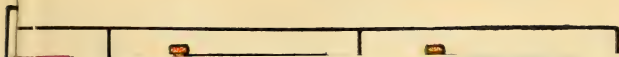
**Bretagne, Lorraine, Provence.** Battleships.  $\nabla$  22,100 tons; 21 knots; 544 feet long overall; built in 1915 and 1916; 10 13·4-inch, 14 5·5 inch, 4 3·9-inch, 4 torpedo tubes.



ALGERIE.

**Algérie.** Cruiser. 84,000 S.H.P., 31 knots; 10 built in 1934; 8 8-inch, 12 3·9-inch A.A., 6 torpedo 3 aircraft.

all;  
ries





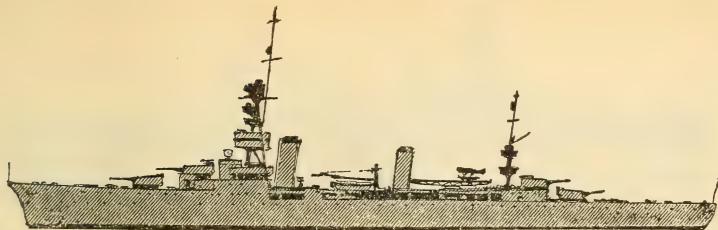
# NETHERLANDS

 <p>1 P. A. Van Es &amp; Co.</p>	 <p>2 "Rotterdam" S. Maats.</p>	 <p>3 Rotterdamsche Lloyd. (Grey hulls.)</p>	 <p>4 "Triton" S. Maats.</p>	 <p>5 Phs. Van Ommeren. (Tankers.)</p>	 <p>6. Java-Chinees Lijn. (Mostly twents.)</p>	 <p>7. Nederlandsche Zeederij</p>	 <p>8. Van Uden's Scheep.</p>
 <p>9. "Millingen", S. Maat.</p>	 <p>10. Hudig &amp; Veder</p>	 <p>11 Wm. H. Müller (Brown uppers.)</p>	 <p>12. Nederlandsche Lloyd</p>	 <p>13. Scheep. en Steenkolen Maats.</p>	 <p>14. Rotterdam-Lidon S. Maats. (Engines at)</p>	 <p>15. Holland West-Afrika Lijn</p>	 <p>16. Vereenigde Nederland. S. Maats.</p>
 <p>17 Nederland. Koloniale Petrol. Maats. (Tankers.)</p>	 <p>18. Erhardt &amp; Dekkers</p>	 <p>19. Halcyon Lijn</p>	 <p>20. Konink. Nederland. S. Maats.</p>	 <p>21. Oceaan, Ned. S. Maats.</p>	 <p>22. Konink. Holland Lij</p>	 <p>23. Van Nievelt Goudriaan &amp; Co.</p>	 <p>24. Nederland-Amerika. S. Maats.</p>
 <p>25. Curaçaosche S. Maats., "La Corona", Ned. Indische. (Tankers.)</p>	 <p>26. Konink. Paket. Maats. (Some have white hulls.)</p>	 <p>27. "Nederland" S. Maats.</p>	 <p>28. Hollandsche S. Maats.</p>	 <p>29. "Hillegersberg" S. Maats.</p>	 <p>30. "Oostzee" Maats.</p>	 <p>31. "Zeeland" S.S. Co.</p>	 <p>32. Vinke &amp; Co.</p>

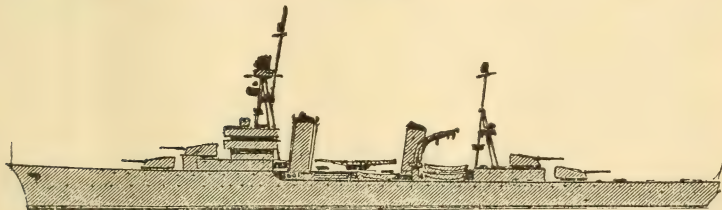
# NAVY SIGNALS



## Representative Ships of the French Navy

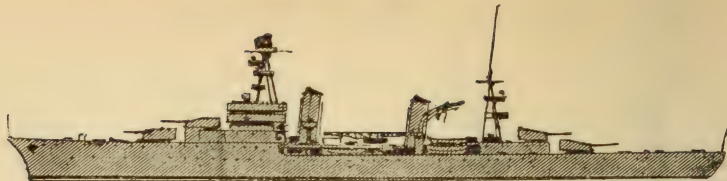


SUFFREN.

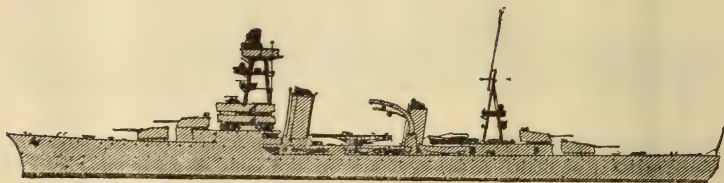


COLBERT.

**Suffren, Colbert, Foch, Dupleix.** Cruisers. 9,900 tons; 640 feet long overall; built in 1928/1931; 90,000 S.H.P., 32·5 knots; 8 8-inch, 8 3·5-inch, 8 3-inch A.A., 6 torpedo tubes (tripled, on deck). Ships not identical, varying in bridge-work and masts.



DUPLEIX.

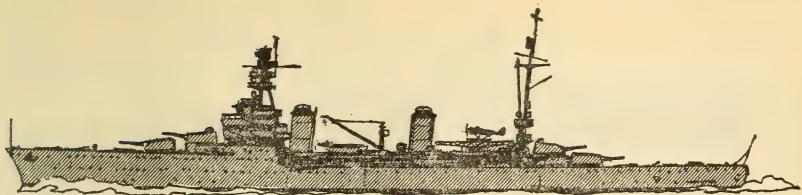


FOCH

662



## Representative Ships of the French Navy

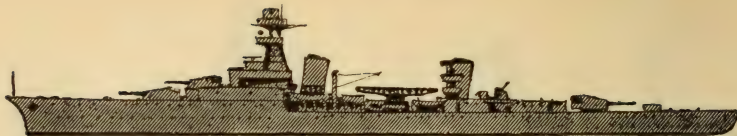


**Duquesne, Tourville.** Cruisers. 10,000 tons; 627 feet long overall; 120,000 S.H.P., 33 knots; built in 1928; 8 8-inch, 8 3-inch A.A., 6 torpedo tubes (tripled, on deck).



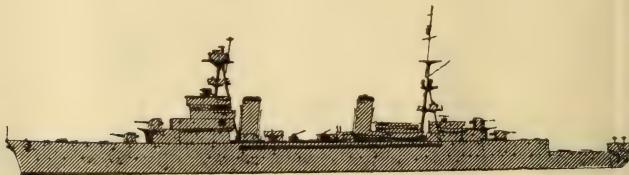
**Duguay-Trouin, Lamotte-Picquet, Primauguet.** Cruisers. 7,300 tons; 594 feet long overall; 100,000 S.H.P., 34 knots; built in 1925; 8 6.1-inch, 4 3-inch A.A., 12 torpedo tubes (tripled, on deck).

## Ships and the Sea



EMILE BERTIN.

**Emile Bertin.** Cruiser. 5,900 tons; 580 feet long overall; 102,000 S.H.P., 34 knots; built 1934; 9 6-inch, 4 3·5-inch, 6 torpedo tubes (tripled, on deck).



PLUTON.

**Cruiser Minelayer.** 4,800 tons; 500 feet long overall; 57,000 S.H.P.; 30 knots; built in 1931; 4 5·5-inch, 4 3-inch, A.A.

 <p>NATIONAL BUREAU OF STANDARDS</p>	 <p>NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY</p>	 <p>NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY</p>
 <p>NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY</p>	 <p>NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY</p>	 <p>NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY</p>
 <p>NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY</p>	 <p>NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY</p>	 <p>NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY</p>

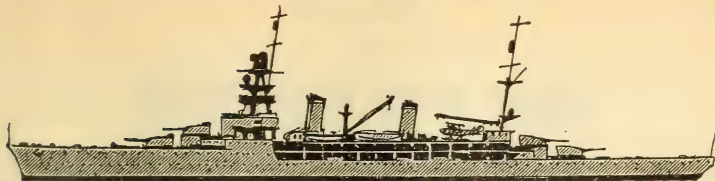


# NORWAY

							
1. O. Grolle Olsen	2. A. J. Mörländ	3. Bruusgaard Kiøsteruds Damps.	4. Hjalmar Roed & Co.	5. Wilh. Wilhelmsen	6. Vesteraalens Dampsk.	7. C. H. Sorensen	8. Sondenfelds Norske Dampsk.
							
9. E. B. Aaby	10. Bachke & Co.	11. A. F. Klaveness & Co. (Grey hulls; many tankers.)	12. Fearnley & Eger	13. Fred. Olsen & Co.	14. Nordenfjeldske Dampsk.	15. Knut Knutsen. (Many tankers.)	16. Stavangerske Dampsk.
							
17. Borgestad Acties. (Grey hulls.)	18. Hagb. Waage. (Grey hulls; Tankers.)	19. Chr. Haaland	20. Korn. Olsen	21. H. M. Wrangell & Co. (Grey hulls.)	22. Bergenske Dampsk.	23. R. & J. Sternsen Waage. (Grey hulls; Tankers.)	24. Bergenske Dampsk. (White hulls.)
							
25. Nordenfjeldske Dampsk. ("Prins Olav.")	26. Fred. Olsen & Co. (Grey hulled ships.)	27. Petter Olsen	28. Norske Amerikalinje. (Grey hulls.)	29. Biörnstad, Biörn & Co. (Grey hulls.)	30. Thorvald Hansen	31. Lauritz Kloster	32. Westfal-Larsen & Co. (Grey hulls.)
							
33. J. L. Mowinckels Red.	34. Haakon J. Wallem	35. J. P. Pedersen. (Grey hulls.)					

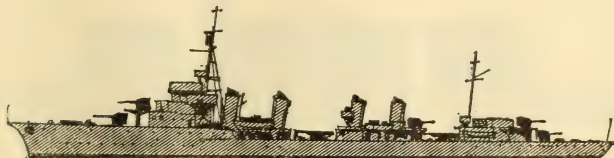


## Representative Ships of the French Navy



JEANNE D'ARC.

**Cruiser.** 6,500 tons; 558 feet long overall; 32,500 S.H.P., 25 knots; built in 1931  
8 6.1-inch, 4 3-inch A.A., 2 torpedo tubes, 1 aircraft.



CASSARD *Class.*

**Cassard Class** represents about 20 French destroyers. 2,400 tons; 425 feet long;  
5 5.5-inch, 6 torpedo tubes; 64,000/68,000 S.H.P., 36/37 knots.



# GERMANY

## Uniforms.

*Insignia of rank on sleeves*



Admiral.



Vize-  
admiral.  
(Vice-Ad.)



Konter-  
admiral.  
(Rear-Ad.)



Kapitän zur See &  
Fregatten kapitän  
(Captain.)  
Stabsoffiziere.

Flaggoffiziere.



Korvetten  
kapitän.  
(Commander.)  
Stabsoffiziere.



Kapitän-  
leutnant.  
(Lieut.-  
Comm.)



Oberleut  
z. See.  
(Lieut.)



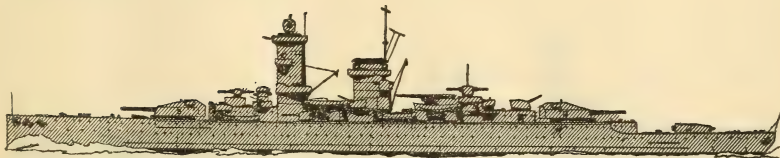
Leutnant  
z. See.  
(Sub-Lieut.)

Subalternoffiziere.

## Representative Ships of the German Navy



DEUTSCHLAND.



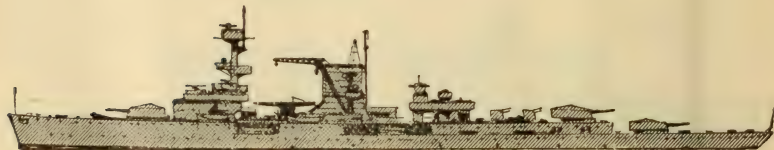
SCHEER.

**Deutschland, Admiral Scheer, Admiral Graf Spee.** Battleships. 10,000 tons; 609 feet long overall; 54,000 S.H.P., 26 knots; built in 1935/1936; 6 11-inch, 8 5·9-inch, 6 3·4-inch A.A., 8 torpedo tubes. Each carries aircraft and catapult.

## Ships and the Sea



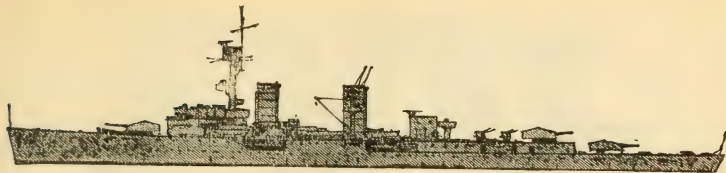
NÜRNBERG.



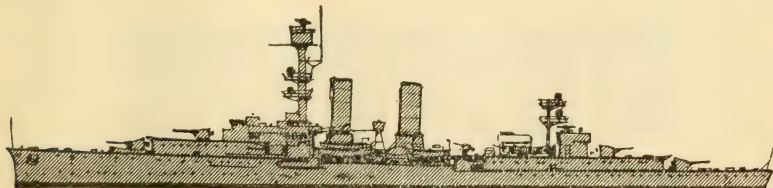
LEIPZIG.

**Nürnberg, Leipzig.** Cruisers. 6,000 tons; 580 feet long overall; 60,000 S.H.P., 32 knots; built 1935; 9 5·9-inch, 4 3·4-inch A.A., 12 torpedo tubes (tripled, on deck). Each carries 2 aircraft.

## Representative Ships of the German Navy



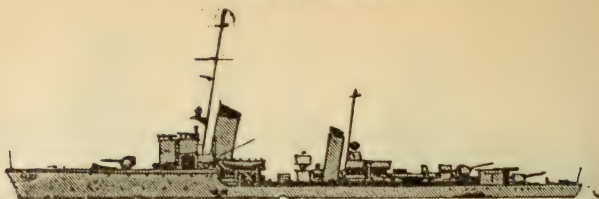
**Königsberg, Karlsruhe, Köln.** Cruisers. 6,000 tons; 570 feet long overall; 65,000 S.H.P., 32 knots; built 1929; 9 5·9-inch, 6 3·4-inch A.A., 12 torpedo tubes (tripled, on deck). Each carries 1 aircraft with catapult.



EMDEN.

**Emden.** Light Cruiser. 5,400 tons; 508 feet long overall; 46,600 S.H.P., 29 knots; built 1925; 8 5·9-inch, 3 3·4-inch, 4 torpedo tubes (paired, on deck).

## **Ships and the Sea**



**Wolf and Möwe** Classes of Destroyer, about 30 ships. 1,000 tons; 300 feet long; 23,000 S.H.P., 34 knots; built between 1927 and 1930; 3 4-inch, 6 torpedo tubes (tripled).



F. 1—F. 10.

**F.I—F.XVI.** Destroyers. 1,600 tons; building; 5 5-inch, 8 torpedo tubes (quadrupled), 40,000 S.H.P., 36 knots.

# Uniforms.

ITALY

*Insignia of rank on sleeves*



Ammiraglio di Armata. Ammiraglio di Squadra. Ammiraglio di Squadra designato di Armata\*. Ammiraglio di Divisione. Contrammiraglio.

British equivalent. }

*Admiral.*

*Vice-Admiral.*

*Rear-Admiral.*



Capitano di Vascello. Capitano di Fregata. Capitano di Corvetta. Tenente di Vascello. Sottotenente di Vascello. Guardiamarina.

British equivalent }

*Captain.*

*Com-  
mander*

*Lieut.  
Com.*

*Lieut.*

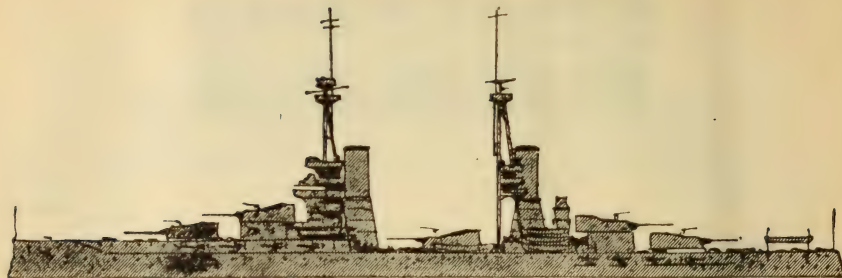
*Sub-Lieut.*

*Midship-  
man.*

*\*Acting rank.*

## Ships and the Sea

### ITALY



DORIA. DUILIO.

**Duilio, Doria.** Battleships. 21,600 tons; 576 feet long overall; 35,000 S.H.P., 22 knots; built in 1915; 13 12-inch, 16 6-inch, 12 3-inch, 6 3-inch A.A., 2 torpedo tubes. To be rebuilt and modernised. All turrets have 3 guns, except superimposed, which have 2 each.

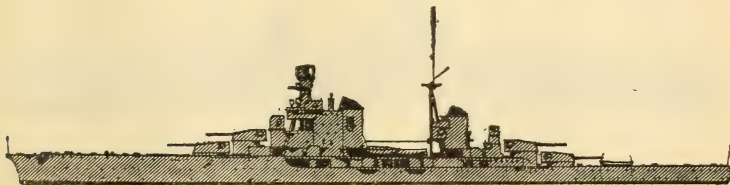
**Cavour and Cesare** were similar but are being entirely re-built and will be finished this year.



## Representative Ships of the Royal Italian Navy



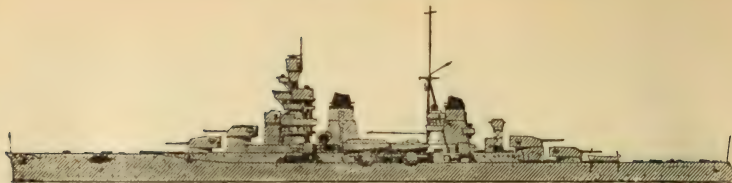
**Bolzano.** Cruiser. 10,000 tons; 627 feet long overall; 150,000 S.H.P., 36 knots; built in 1932; 8 8-inch, 16 3·9-inch A.A., 8 torpedo tubes. One aircraft and catapult.



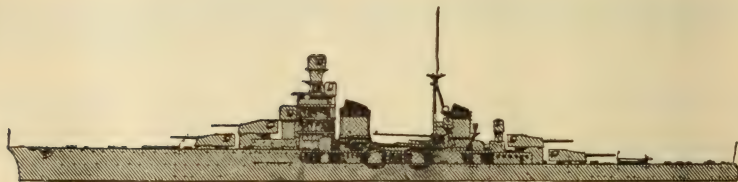
**POLA.**

673

## Ships and the Sea



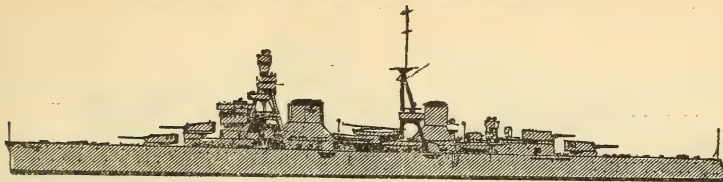
GORIZIA.



ZARA. FIUME.

Zara, Fiume, Gorizia, Pola. Cruisers. 10,000 tons; 600 feet long; 95,000 S.H.P., 32 knots; built in 1932; 8 8-inch, 16 3·9-inch A.A. One catapult.

## Representative Ships of the Royal Italian Navy



**Trento, Trieste.** Cruisers. 10,000 tons; 642 feet long overall; 150,000 S.H.P. 35.5 knots; built in 1928; 8 8-inch, 16 3.9-inch A.A., 8 torpedo tubes.



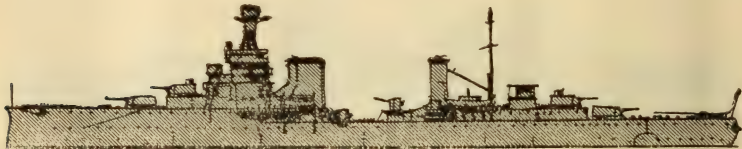
MONTECUCCOLI AND DUCA D'AOSTA *classes*.

**Giuseppe Garibaldi, Luigi di Savoia, Duca Degli Abruzzi, Eugenio di Savoia, Emanuele Filiberto, Duca D'Aosta.** Cruisers. 6,800 tons; 613 feet long overall; 110,000 S.H.P., 36.5 knots; built in 1936; 8 6-inch, 6 3.9-inch A.A., 6 torpedo tubes. Three aircraft and 1 catapult. Very similar ships, **Montecuccoli, Muzio Attendolo.**

## **Ships and the Sea**

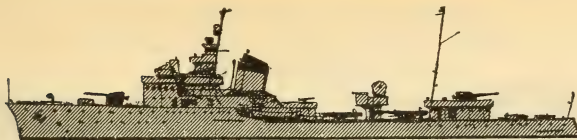


**Luigi Cadorna, Armando Diaz.** Cruisers. 5,000 tons; 555 feet long overall; 95,000 S.H.P., 37 knots; built in 1933; 8 6-inch, 6 3·9-inch A.A., 4 torpedo tubes (on deck). Two aircraft, 1 catapult.

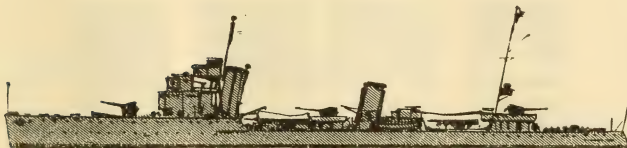


**Giovanni Delle Bande Nere, Bartolomeo Colleoni, Alberto di Giussano, Ablerico da Barbiano.** Cruisers. 5,100 tons; 556 feet long overall; 95,000 S.H.P., 37 knots; built 1930; 8 6-inch, 6 3·9-inch A.A., 4 torpedo tubes (deck). One aircraft and 1 catapult.

## Representative Ships of the Royal Italian Navy



**Dardo and Folgore** Class destroyers, comprising about 8 ships. 1,200 tons; 315 feet long overall; 44,000 S.H.P., 38 knots; built 1933; 4 4·7-inch, 6 torpedo tubes (tripled).



**Navigatori** Class destroyers, representing 12 ships. 2,000 tons; 351 feet long overall; 50,000 S.H.P., 38 knots; built 1932; 6 4·7 inch, 4 torpedo tubes (paired).

# JAPAN.

## Personnel and Uniforms.

*Insignia of rank—executive officers—sleeves*  
(Changed to this; 1908.)



Executive  
Branch: }  
Corresponding  
British: }

Tai-sho.

Chu-sho.

Sho-sho.

Tai-sa.

Chu-sa.

*Admiral.*

*Vice-Ad.*

*Rear-Ad.*

*Captain.*

*Commander.*



Sho-i Ko-hosei.  
*Midshipman.*

Executive  
Branch: }  
Corresponding  
British: }

Sho-sa.

Tai-i.

Chu-i.

Sho-i.

*Lieut. Com.*

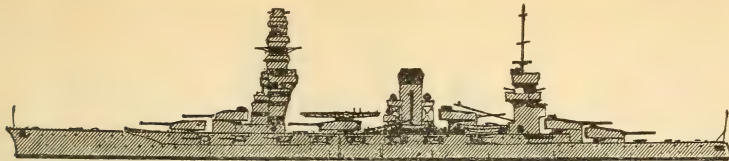
*Lieutenant.*

*Sub-Lieut.*

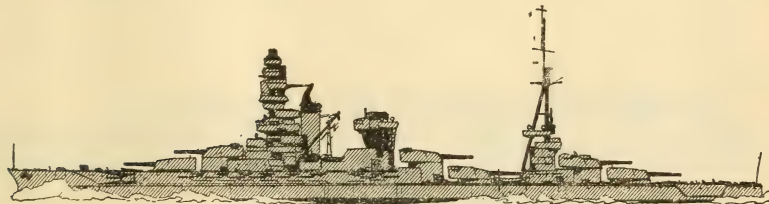
*Acting  
Sub-Lieut.*

Has a stripe  
half the width  
of a Sho-i.

## Representative Ships of the Imperial Japanese Navy



**Fuso, Yamashiro.** Battleships. 29,300 tons; 673 feet long overall; 40,000 S.H.P., 22.5 knots; built in 1915/1917 and rebuilt recently; 12 14-inch, 16 6-inch, 8 5-inch A.A., 2 torpedo tubes.



**Ise, Hiuga.** Battleships. 30,000 tons; 640 feet long; 45,000 S.H.P., 23 knots; built 1917/1918 and rebuilt recently; 12 14-inch, 18 5.5-inch, 8 5-inch A.A., 4 torpedo tubes.



## **Ships and the Sea**

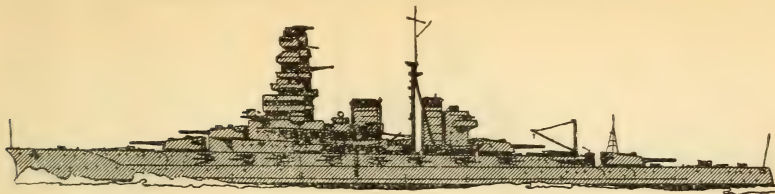


**Nagato, Mutsu.** Battleships. 32,700 tons; 700 feet long overall; 80,000 S.H.P., 23 knots; built in 1920 and 1921; 8 16-inch, 20 5.5-inch, 8 5-inch A.A., 6 torpedo tubes.



**KONGO. KIRISHIMA.**

## Representative Ships of the Imperial Japanese Navy



HARUNA.

**Kongo, Haruna, Kirishima.** Battleships. 29,300 tons; 704 feet long; 64,000 S.H.P., 26 knots; built in 1913/1915 and entirely reconstructed recently; 8 14-inch 16 6-inch, 9 5-inch A.A., 4 torpedo tubes.

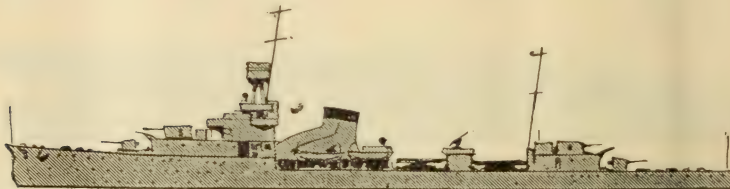


**Kaga.** Aircraft Carrier. 26,900 tons; 715 feet long; 91,000 S.H.P., 23 knots; built 1924; 10 8-inch, 12 4.7-inch A.A. Carries about 60 aircraft. She is being reconstructed and will have an island superstructure and funnel similar to H.M.S. *Courageous*. Similar ships in appearance are *Akagi*, *Ryujō*, *Soryū*, *Hiryū*.

## **Ships and the Sea**

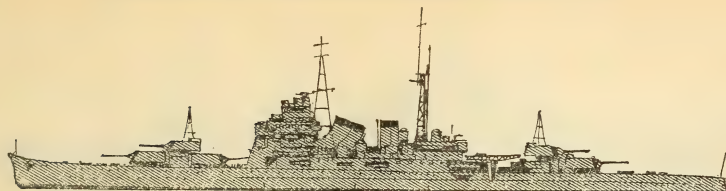


**Mikuma, Mogami, Suzuya, Kumano, Tonea, Chikuma.** Light Cruisers. 8,500 tons; 625 feet long; 90,000 S.H.P., 33 knots; built in 1936; 15 6.1-inch, 8 5-inch A.A. 12 torpedo tubes (quadrupled, on deck).

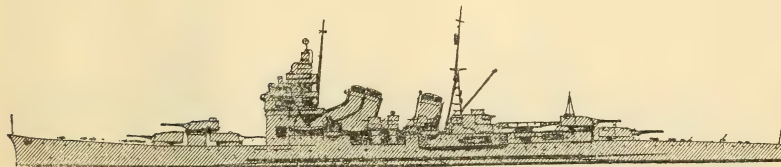


**Yubari.** Cruiser. 2,900 tons; 435 feet long; 57,000 S.H.P., 33 knots; built in 1924; 6 5.5-inch, 1 3-inch A.A., 4 torpedo tubes (on deck).

## Representative Ships of the Imperial Japanese Navy

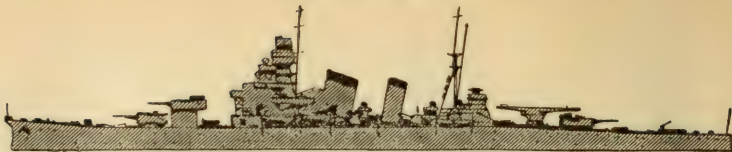


**Atago, Takao, Chokai, Maya.** Cruisers. 9,900 tons; 630 feet long; 100,000 S.H.P., 33 knots; built 1932; 10 8-inch, 4 4·7-inch A.A., 8 torpedo tubes (paired, on deck).

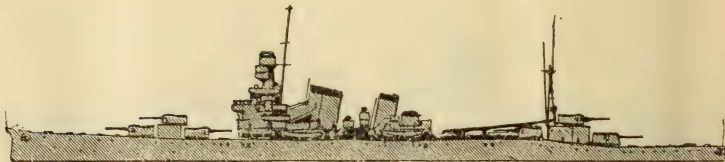


**Nachi, Myoko, Ashigara, Haguro.** Cruisers. 10,000 tons; 630 feet long; 100,000 S.H.P., 33 knots; built 1929; 10 8-inch, 6 4·7-inch A.A., 12 torpedo tubes (quadrupled, on deck).

## Ships and the Sea



**Kinugasa, Aoba.** Cruisers. 7,100 tons; 580 feet long; 95,000 S.H.P., 33 knots; built 1927; 6 8-inch, 4 4.7-inch A.A., 12 torpedo tubes. Two planes each.



**Kako, Furutaka.** Cruisers. 7,100 tons; 580 feet long; 95,000 S.H.P., 33 knots; built 1926; 6 8-inch, 4 4.7-inch A.A., 12 torpedo tubes.

## Representative Ships of the Imperial Japanese Navy



**Jintsu, Naka, Sendai.** Light Cruisers. 5,200 tons; 535 feet long overall; 90,000 S.H.P., 33 knots; 7 5·5-inch, 2 3-inch A.A., 8 torpedo tubes (paired, on deck). Catapult.



KINU.

**Isudzu, Nagara, Natori, Yura, Kinu, Abukuma.** Light Cruisers. 5,200 tons; 535 feet long; 90,000 S.H.P., 33 knots; built 1923; 7 5·5-inch, 2 3-inch A.A., 8 torpedo tubes. Catapult. Similar ships with lighter bridge, *Kuma, Tama, Ohi, Kiso, Kitakami*.

## Ships and the Sea



ISUDZU.  
NAGARA.

\*NATORI.  
YURA.

\*ABUKUMA.

\*Fitted with catapult. (*Particulars : see previous page.*)

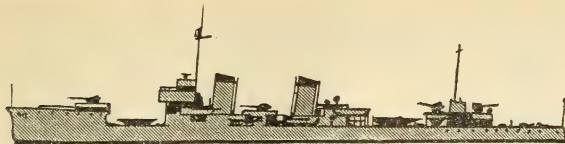


(Some have no shields to tubes.)

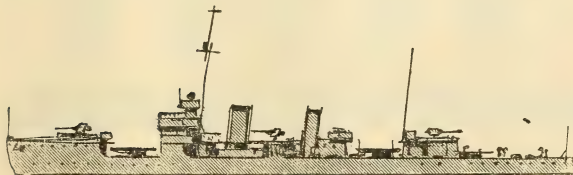
**Fubuki** Class destroyers, representing about 23 ships. 1,700 tons; 367 feet long; 40,000 S.H.P., 34 knots; built between 1928 and 1931; 6 5·1-inch, 9 torpedo tubes.



## Representative Ships of the Imperial Japanese Navy



**Mutsuki** Class destroyers, representing about 12 ships. 1,300 tons; 320 feet long; 38,500 S.H.P., 34 knots; built 1927; 4 4.7-inch, 6 torpedo tubes. Similar ships with 1 gun less, 19 of *Kaya* Class and *Asi* Class.



*KAYA* Class (see *above* for particulars).



RYUJO.



AKAGI.  
(Aircraft Carrier.)



HOSHŌ.  
(Aircraft Carrier.)

Uniforms.



Admiral.



Vice-  
Admiral.



Rear-  
Admiral.



Captain.



Commander.



Lieutenant  
Commander.



Lieutenant.



Lieutenant  
(Junior).



Ensign.



Chief  
Warrant  
Officer.



Warrant  
Officer.

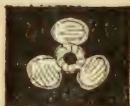
# UNITED STATES

## Uniforms.

*(Specialist Grades)*



Carpenter.



Machinist.



Medical.



Supply.



Construction.



Boatswain.



Civil  
Engineer.



Gunner.



Pay Clerk.



Line.

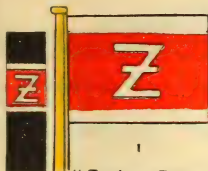


Electrician.

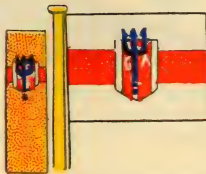


Radio-  
Electrician.

# POLAND



1  
"Zegluga Polska"  
S.A.



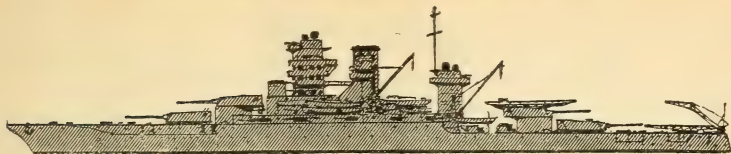
2. Gdynia-America Linje



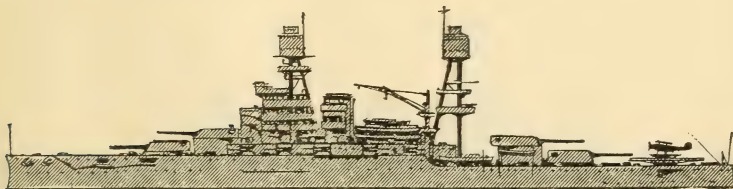
3.  
Polsko Brytyjskie  
Towar.  
(Grey hulls.)



## Representative Ships of the United States Navy



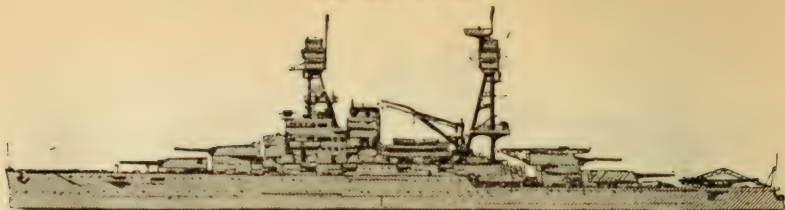
**Idaho, Mississippi, New Mexico.** Battleships. 33,000 tons; 624 feet long overall; 40,000 S.H.P., 21.5 knots; built 1917, but completely rebuilt recently; 12 14-inch 12 5-inch, 8 5-inch A.A. One catapult on "X" turret and 1 on quarterdeck.



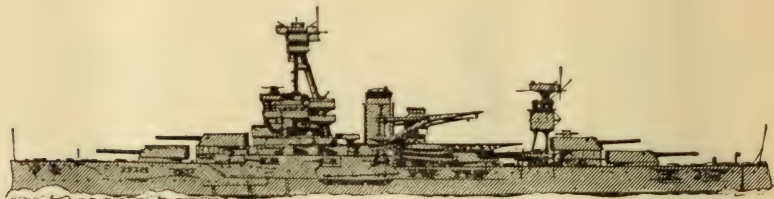
**Pennsylvania, Arizona.** Battleships. 33,100 tons; 608 feet long overall; 33,400 S.H.P., 21 knots; built 1916 but completely rebuilt recently; 12 14-inch, 12 5-inch, 8 5-inch A.A. One catapult on "X" turret (not shown on drawing) and 1 on quarterdeck.



## **Ships and the Sea**

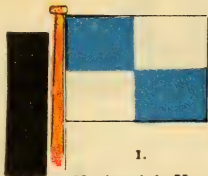


**Oklahoma, Nevada.** Battleships. 29,000 tons; 583 feet long; 25,000 S.H.P., 20·5 knots; built 1916 but completely rebuilt recently; 12 14-inch, 12 5-inch, 8 5-inch A.A. One catapult on "X" turret and 1 on quarterdeck.



**New York, Texas.** Battleships. 27,000 tons; 573 feet long overall; 28,100 S.H.P., 19 knots; built 1914 but completely rebuilt recently; 10 14-inch, 16 5-inch, 8 3-inch A.A. One catapult on amidships turret.

# PORTUGAL



1.

Nacional de Nav.,  
Comp.



2.

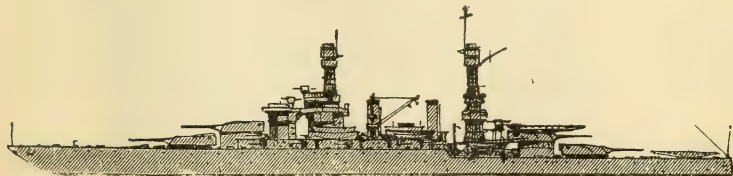
Empresa Insulana de  
Nav.



## Representative Ships of the United States Navy

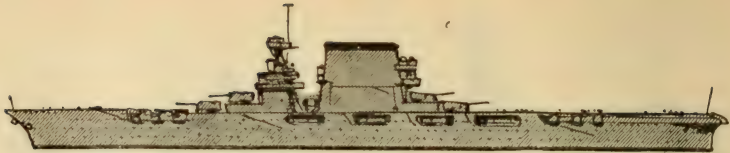


**Arkansas.** Battleship. 26,100 tons; 562 feet long overall; 30,000 S.H.P., 19 knots; built 1912 but completely rebuilt; 12 12-inch, 16 5-inch, 8 3-inch A.A. One catapult on amidships superimposed turret.



**Colorado, Maryland, West Virginia, California, Tennessee.** Battleships. 32,500 tons; 624 feet long overall; 27,300 S.H.P., 21 knots; built 1921/23 and to be re-constructed; 8 16-inch, 12 5-inch, 8 5-inch A.A., 2 torpedo tubes. One catapult on "X" turret and 1 on quarterdeck.

## Ships and the Sea



**Lexington, Saratoga.** Aircraft Carriers. 33,000 tons, 888 feet long overall; 180,000 S.H.P., 33.25 knots; designed as battlecruisers and were to have had seven funnels but altered during construction and completed 1925; 8 8-inch, 12 5-inch A.A. *Lexington* carries 90 planes and *Saratoga*, 70 planes.

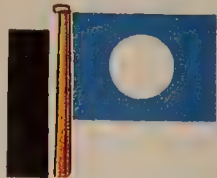


**Astoria, Minneapolis, New Orleans, Tuscaloosa, San Francisco, Quincy, Vincennes, Wichita.** Cruisers. 10,000 tons; 610 feet long overall; 107,000 S.H.P., 32 knots; some built in 1934 and others in course of construction; 9 8-inch, 8 5-inch A.A. Two catapults and 4 aircraft.






# SPAIN



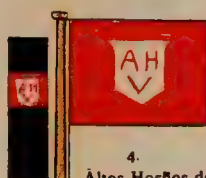
1. Trasatlantica, Comp.



2 Urquijo y Aldecoa



3. Ybarra & Co.



4.  
Altos Hornos de  
Vizcaya, S.A.



5. De la Torre Y Alonso



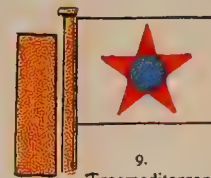
6. Astigarraga, Hijos de



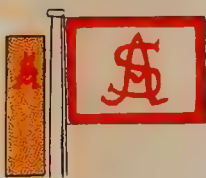
7.  
Vascongada, Comp.  
Nav.



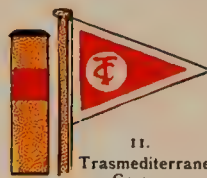
8.  
Arrendataria del  
Monop. de Petrol.  
(Tankers.)



9.  
Trasmediterranea,  
Comp. Interinsulares



10. Sir Ramon de la Sota



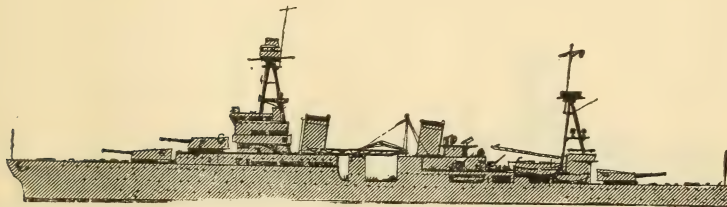
11.  
Trasmediterranea,  
Comp.  
(White hulls)



## Representative Ships of the United States Navy

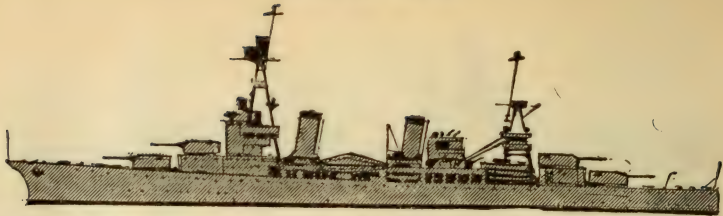


**Portland, Indianapolis.** Cruisers. 9,800 tons; 610 feet long overall; 107,000 S.H.P., 32·7 knots; built 1932; 9 8-inch, 8 5-inch A.A. Two catapults, 4 aircraft.

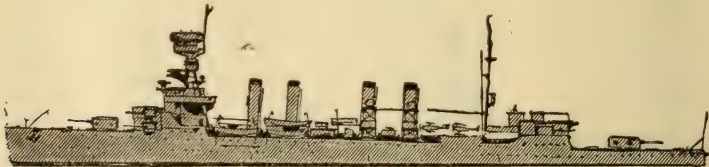


**Augusta, Chester, Chicago, Houston, Louisville, Northampton.** Cruisers. 9,000 tons; 600 feet long overall; 107,000 S.H.P., 32·7 knots; built 1931; 9 8-inch, 4 5-inch A.A., 6 torpedo tubes (tripled, on deck). Two catapults, 4 aircraft.

## Ships and the Sea

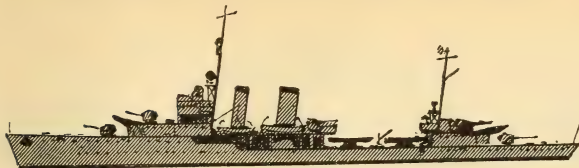


**Pensacola, Salt Lake City.** Cruisers. 9,100 tons; 570 feet long overall; 107 S.H.P., 32.7 knots; built 1930; 10 8-inch, 4 5-inch A.A., 6 torpedo tubes (tripled, on deck). Two catapults, 4 aircraft.



**Omaha, Milwaukee, Raleigh, Detroit, Concord, Trenton, Memphis, Richmond, Marblehead, Cincinnati.** Cruisers. 7,100 tons; 555 feet long overall; 90,000 S.H.P., 33.5 knots; built between 1923/25; 10 6-inch, 4 3-inch, 6 torpedo tubes (tripled, on deck).

## Representative Ships of the United States Navy



**Farragut** Class destroyers, representing about 48 ships. 1,500 tons; 334 feet long; built between 1934 and onwards; 5 5-inch, 8 torpedo tubes; 42,800 S.H.P., 36.5 knots.



FLUSH DECKERS.

Flush decked destroyers, representing about 180 ships. 1,200 tons; 314 feet long overall; 20,000 S.H.P., 35 knots; built between 1919 and 1920; 4 5-inch, 12 torpedo tubes (tripled, on deck).



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*As this index is so considerable it has not been found possible to distinguish between ships bearing the same name in different Companies or of different Countries.*

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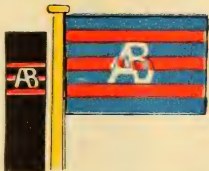
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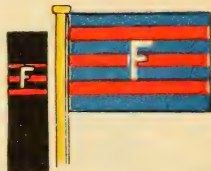
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Adolf. Bratt & Co.



6. "Tirfing" Angf.



7. Axel Broström & Son



13.  
Transatlantic Rederi.  
(Grey hulls.)



14.  
Per Waller.  
(Grey hulls.)



15. Svenska Lloyd



# SWEDEN

 <p>1. Transmark Rederi. (Grey hulls; tankers.)</p>	 <p>2. Grängesberg- Öxelosund Trafik. (Grey hulls.)</p>	 <p>3. Viktor Schreil. (Grey hulls.)</p>	 <p>4. "Nordstjernen" Johnson Line. (Grey hulls.)</p>	 <p>4a. Svenska Lloyd. (Cargo vessels; grey hulls.)</p>	 <p>5. Adolf. Bratt &amp; Co.</p>	 <p>6. "Tirfing" Angf.</p>	 <p>7. Axel Broström &amp; Son</p>
 <p>8. Svea, Stockholms Rederiakt. (Grey hulls.)</p>	 <p>9. Jarl. Malmros. (Grey hulls; mostly tankers.)</p>	 <p>10. Svenska Amerika Linien. (White hulls)</p>	 <p>11. Svenska Ostasiatiska Komp.</p>	 <p>12. Svenska Amerika- Mexiko Linien</p>	 <p>13. Transatlantic Rederi. (Grey hulls.)</p>	 <p>14. Per Waller. (Grey hulls.)</p>	 <p>15. Svenska Lloyd</p>





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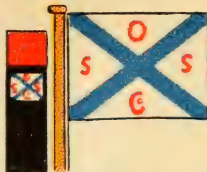


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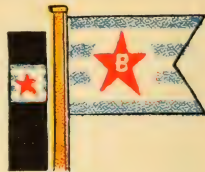
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6.  
Standard Oil Co. of  
Cal.  
(Tankers)



7. Ocean S.S. Co. of  
Savannah



8. Barber S.S. Lines Inc.





# UNITED STATES

 <p>1. Peninsular &amp; Occi- dental S.S. Co.</p>	 <p>2. Inter-Island S.N. Co. -Ltd.</p>	 <p>3. C D. Mallory &amp; Co Inc.</p>	 <p>4 Eastern S.S. Lines Inc.</p>	 <p>5 Standard-Vacuum Trans. Co. (Tankers)</p>	 <p>6 Standard Oil Co. of Cal. (Tankers)</p>	 <p>7. Ocean S.S. Co. of Savannah</p>	 <p>8. Barber S.S. Lines Inc.</p>
 <p>9. Dollar S.S. Lines Inc. Ltd.</p>	 <p>10. Luckenbach S.S. Co. Inc.</p>	 <p>11. American Line S.S. Corp</p>	 <p>12. Standard Fruit &amp; S.S. Corp. (White hulls)</p>	 <p>13. Clyde-Mallory Lines</p>	 <p>14. Export S.S. Corp.</p>	 <p>15. Standard Shipping Co. (Tankers.)</p>	 <p>16. Ward Line</p>
 <p>17. Munson Steamship Line</p>	 <p>18. Grace S.S. Co. Inc.</p>	 <p>19 American &amp; Cuban S.S. Line</p>	 <p>20. Roosevelt S.S. Co. Inc.</p>	 <p>21. American-Hawaiian S.S. Co</p>	 <p>22. Waterman S.S. Corp.</p>	 <p>23. Baltimore Mail S.S. Co.</p>	 <p>24. Colombian S.S. Co. Inc. (Grey hulls.)</p>
 <p>25. American Diamond Lines Inc.</p>	 <p>26. Pacific S.S. Lines Ltd.</p>	 <p>27 American Mail Line Ltd.</p>	 <p>28. Oceanic &amp; Oriental Nav. Co.</p>	 <p>29 United Fruit Co. (White hulls)</p>	 <p>30. The Oceanic S.S. Co. (White hulls.)</p>	 <p>31. Matson Nav. Co. (Dark brown hulls.)</p>	 <p>32. Southern Pacific S.S. Lines</p>

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# YUGOSLAVIA



1.  
Dubrovacka Parob.  
Plovidba.



2. Atlantska Plovidba



3. Prekma Plovidba



5. Brodarsko Ack.  
"Oceania"



6. Jugoslavenski Lloyd



K. acka Parob.  
Plovidba.





# YUGOSLAVIA



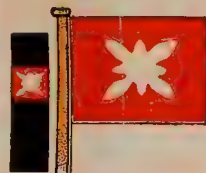
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Dubrovacka Parob.  
Plovidba.



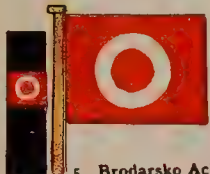
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3. Prekmorska Plovidba



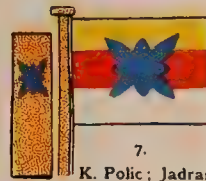
4. Jadranska Plovidba



5. Brodarsko Ack.  
"Oceania"



6. Jugoslavenski Lloyd



7.  
K. Polic; Jadran  
Brodarsko



8.  
Dubrovacka Parob.  
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